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ABSTRACT

This volume is a compilation of digests produced by the 16 Clearinghouses that constitute the Educational Resources Information Center (ERIC). Each ERIC Clearinghouse covers a specific area of education, selects materials for an education database, develops publications, and responds to requests for information on education topics. The 80 ERIC Digests in this volume provide an overview of issues, programs, and research related to the 7 education priorities established by the President and the Secretary of the U.S. Department of Education. The first 3 priorities identify specific performance results that all children should achieve at critical points in their schooling: reading independently by the end of third grade (priority 1); competency in mathematics, including the foundations of algebra and geometry, by the end of eighth grade (priority 2); and being prepared for and able to afford college at 18 years of age (priority 3). Priorities four through seven identify key strategies to help students achieve these performance results: high standards of achievement and accountability for all children (priority 4); high-quality teachers (priority 5); technology in the classroom (priority 6); and schools that are safe, drug-free, and modernized to meet current and future challenges (priority 7). The Digests are grouped under these seven priorities and are organized alphabetically within each section. (RJM)

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Striving for Excellence, Volume IV:

The National Education Priorities of the President and the U.S. Department of Education

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Striving for Excellence, Volume IV:

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Contents

Foreword i

Introduction iii

Priority 1: Reading 1
Academic Interventions for Children with Dyslexia Who Have Phonological Core Deficits, 1995 (ED385095) 3
Beginning Reading, 1998 (ED418515) 5
Beginning Reading and Phonological Awareness for Students with Learning Disabilities, 1995 (ED392197) 7
Building on Existing Strengths To Increase Family Literacy, 1999 (ED431064) 9
Family Literacy: Respecting Family Ways, 1998 (ED423429) 11
Family Literacy Strategies To Support Children's Learning, 1999 (ED431063) 13
Language and Literacy Environments in Preschools, 1999 (ED426818) 15
Vocabulary Instruction and Reading Comprehension, 1997 (ED412506) 17

Priority 2: Mathematics 19
Helping Students With Homework In Science and Math, 1999 (SE062502) 21
Helping Your Child Learn Math, 1998 (SE061975) 23
Reforming Mathematics Instruction for ESL Literacy Students, 1997 (ED414769) 25
Resources for Teaching and Learning About Probability and Statistics, 1999 (SE062507) 27
A Student Watcher's Guide to Performance in Mathematics, 1999 (SE062510) 29

Priority 3: College Preparation 31
Early Intervention Programs: Opening the Door to Higher Education, 1997 (ED412862) 33
Effective Policies for Remedial Education, 1998 (ED416940) 35
Enacting Diverse Learning Environments: Improving the Climate for Racial/Ethnic Diversity in Higher Education, 1999 (ED430513) 37
Migrant Students Attending College: Facilitating Their Success, 1998 (ED423097) 39
Using Technology in Remedial Education, 1998 (ED421180) 41

Priority 4: Standards for Achievement and Accountability 43
Another Look at What Young Children Should Be Learning, 1999 (ED430735) 45
Building School-to-Work Systems in Rural America, 1998 (ED418832) 47
A Developmental Approach to Assessment of Young Children, 1997 (ED407172) 49
Expectations for Students, 1997 (ED409609) 51
Family and Intergenerational Literacy in Multilingual Communities, 1998 (ED421899) 53
Guide to the National Partnership for Excellence and Accountability in Teaching (NPEAT), 1998 (ED426056) 57
Helping Children Master the Tricks and Avoid the Traps of Standardized Tests, 1999 (ED429987) 59
Including Students with Disabilities in Large-Scale Testing: Emerging Practices, 1998 (ED431247) 61
Meeting the National Standards: Now What Do I Do?, 1998 (ED425657) 63
A Nation Still At Risk, 1999 (ED429988) 65
The National Voluntary Content Standards in Economics, 1999 (ED428031) 67
Performance Contracts for Administrators, 1999 (ED430320) 69
Should Students Be Tracked in Math or Science?, 1999 (SE062503) 71
Statewide Assessment Programs: Policies and Practices for the Inclusion of Limited English Proficient Students, 1997 (ED421484) 73
Strategies for Improving the Process of Educational Assessment, 1999 (ED431819) 75
What's Happening in School-to-Work Programs?, 1998 (ED414435) 77
Whole-School Reform, 1998 (ED427388) 79

Priority 5: Teacher Quality 81
Assessing LEP Migrant Students for Special Education Services, 1999 (ED425892) 83
Classroom Questions, 1998 (ED422407) 85
Constructivism in Teacher Education: Considerations for Those Who Would Link Practice to Theory, 1998 (ED426986) 87
Diversifying the Teaching Force: Preparing Paraeducators as Teachers, 1997 (ED406362) 89
Early Field Experiences in Teacher Education, 1998 (ED429054) 91
The Education and Certification of History Teachers: Trends, Problems, and Recommendations, 1998 (ED422267) 93
Implementing Performance Assessment in the Classroom, 1998 (ED423312) 95
New Directions in Teacher Evaluation, 1998 (ED429052) 97
Peer Review of Teachers, 1999 (ED429343) 99
Proclaiming and Sustaining Excellence: Assessment as a Faculty Role, 1998 (ED420244) 101
Professional Development of Foreign Language Teachers, 1997 (ED414768) 103
Schools, Principals, and Teachers Serving American Indian and Alaska Native Students, 1999 (ED425895) 105
Teacher Morale, 1998 (ED422601) 107
Teaching World History: The Global Human Experience Through Time, 1998 (ED419772) 109
Technology in Teacher Education: Progress Along the Continuum, 1998 (ED424212) 111
Trends in Staff Development for Adult ESL Instructors, 1998 (ED423711) 113
Using Alternative Assessments to Improve the Teaching and Learning of History, 1997 (ED412170) 117
Vocational Teacher Education Reform, 1997 (ED407572) 119

Priority 6: Technology in the Classroom 121
The Benefits of Information Technology, 1998 (ED420302) 123
Building and Maintaining Digital Reference Services, 1999 (ED427794) 125
Evaluating Online Educational Materials for Use in Instruction, 1999 (ED430564) 127
Guidelines for Evaluating Web Sites, 1998 (ED426440) 129
Information Literacy, 1999 (ED427777) 131
Information Literacy: Search Strategies, Tools and Resources, 1998 (ED421178) 133
Studying with the Computer, 1997 (ED409585) 135
Successfully Integrating Technology, 1998 (ED422989) 137
Using the Internet to Enrich Science Teaching and Learning, 1999 (SE062506) 139
Using the Web to Access Online Education Periodicals, 1999 (ED430584) 141
Using the World Wide Web with Adult ESL Learners, 1998 (ED427555) 143
The Virtual Campus: Technology and Reform in Higher Education, 1997 (ED412815) 145
The World Wide Web and Vocational Education, 1997 (ED411416) 147

Priority 7: Safe and Drug-Free Schools 149
Drug Abuse Prevention: School-based Strategies that Work, 1997 (ED409316) 151
Early Childhood Violence Prevention, 1998 (ED424032) 153
Education Reform and Students at Risk, 1997 (ED405642) 155
Girls and Violence, 1999 (ED430069) 157
Identifying and Evaluating Children's Health Resources, 1997 (ED414280) 159
Improving School Violence Prevention Programs Through Meaningful Evaluation, 1998 (ED417244) 161
Outdoor Education and the Development of Civic Responsibility, 1999 (ED425051) 165
Promoting Physical Activity and Exercise among Children, 1998 (ED416204) 167
Promoting Stress Management: The Role of Comprehensive School Health Programs, 1998 (ED421480) 169
Schools as Communities, 1997 (ED405641) 171
Sexual Harassment Interventions, 1999 (ED429188) 173
Student Dress Policies, 1998 (ED415570) 175
Student Truancy, 1999 (ED429334) 177
Urban School-Community Parent Programs To Prevent Drug Use, 1997 (ED427093) 179

Foreword

This fourth volume of *Striving for Excellence* represents the collective efforts of the sixteen clearinghouses that constitute the Educational Resources Information Center (ERIC). Each ERIC Clearinghouse covers a specific area of education, selecting materials for the database, developing publications, and responding to requests for information on related topics from educators and the public. In addition, each ERIC Clearinghouse regularly synthesizes research reports, conference papers, books, journal articles, and other materials and compiles the information into short *ERIC Digests*. More than 2,000 full-text *ERIC Digests* can be accessed online as well (http://www.ed.gov/databases/ERIC_Digests/index).

The eighty ERIC Digests in this volume provide an overview of issues, programs, and research related to the seven education priorities established by the President and the Secretary of the U.S. Department of Education. The Digests are grouped into seven sections by priority and are organized alphabetically within each section. The materials in this volume are in the public domain and may be reproduced and disseminated freely. An electronic copy of this document will be posted at http://www.accesseric.org.

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President's and Education Secretary's Priorities

Priority 1: Reading

All students will read independently and well by the end of 3rd grade.

Priority 2: Mathematics

All students will master challenging mathematics, including the foundations of algebra and geometry, by the end of 8th grade.

Priority 3: College Preparation

By 18 years of age, all students will be prepared for and able to afford college.

Priority 4: Standards for Achievement and Accountability

All states and schools will have challenging and clear standards of achievement and accountability for all children, and effective strategies for reaching those standards.

Priority 5: Teacher Quality

There will be a talented, dedicated, and well-prepared teacher in every classroom.

Priority 6: Technology in the Classroom

Every classroom will be connected to the Internet by the year 2000 and all students will be technologically literate.

Priority 7: Safe and Drug-Free Schools

Every school will be strong, safe, drug-free, and disciplined.

Introduction

In 1997, President Clinton issued a "Call to Action for American Education" that set forth ten broad principles to guide the nation's agenda for education improvement. Secretary of Education Riley responded by convening the U.S. Department of Education's senior leadership to identify those specific areas in the "Call to Action" that the Department could most effectively address. The meeting culminated in the establishment of seven education priorities. Although more focused and specific than the eight National Education Goals, the priorities similarly engage all of the Department's program offices and support the Department's broader mission to promote equity and excellence in education for all children.

What Are the Seven Priorities?

The first three priorities identify specific *performance results* that all children should achieve at critical points in their schooling: reading independently by the end of third grade (priority 1); competency in mathematics, including the foundations of algebra and geometry, by the end of eighth grade (priority 2); and being prepared for and able to afford college at 18 years of age (priority 3). Priorities four through seven identify key *strategies* to help students achieve these performance results: high standards of achievement and accountability for all children (priority 4); high-quality teachers (priority 5); technology in the classroom (priority 6); and schools that are safe and drug-free and modernized to meet current and future challenges (priority 7).

Why Fourth-Grade Reading and Eighth-Grade Math?

Fourth-grade reading and eighth-grade math are critical transition points in a child's academic success. American schools typically expect children to read independently and well by the fourth grade. Those who don't read well have difficulty learning core content. Often these children fall further behind in school, lose interest, and either give up or drop out. This is of great concern because nearly 40 percent of U.S. fourth graders cannot read at what the National Assessment of Educational Progress (NAEP) considers to be the basic level; nearly 70 percent fall below the proficient level (National Center for Education Statistics, 1998).

If reading well by the fourth grade is the first crucial academic checkpoint, doing well in math by the eighth grade is the second. Students who enroll in algebra as eighth graders are more likely to complete higher-level math courses in high school—and apply to four-year colleges—than those who don't (National Center for Education Statistics, 1999). Today, nearly 40 percent of U.S. eighth graders fall below the "basic" math achievement level as measured by NAEP, and 76 percent fall below the "proficient" level (National Center for Education Statistics, 1997a). In addition, topics taught in U.S. eight-grade math classes are typically comparable to those covered in seventh-grade classes abroad (National Center for Education Statistics, 1997b). Accordingly, only 20 percent of U.S. students take algebra by the end of eighth grade (U.S. Department of Education, 1997). Lacking the foundation to take more advanced math courses in high school, these students often face limited options for college and careers.

Why Is Preparation for College a Priority?

The new jobs created in today's high-tech economy typically require postsecondary skills in literacy and mathematics. Consequently, students who do not attend college are at a serious disadvantage economically. Fifteen years ago, for example, the typical college graduate's income was 38 percent higher, on average, than the typical high school graduate's; today, it is 73 percent higher (U.S. Department of Education, 1997). This opportunity gap between high school and college graduates is expected to grow.

Although higher education is more important than ever, it has become harder for American families to afford it. Between 1979 and 1993, many middle class families' income decreased while college costs increased by 165 percent (U.S. Department of Education, 1997). Moreover, in 1994, only 45 percent of high school graduates from low-income families and 58 percent from middle-income families went directly from high school to college, compared to 77 percent from high-income families (U.S. Department of Education, 1997). This difference is important because those who immediately enter college upon high school graduation finish college at far higher rates than those who delay entry.

What Is the Department Doing To Achieve These Results?

Priorities four through seven embody the strategies for helping all children read independently and well by the fourth grade, master challenging mathematics by the end of eighth grade, and prepare for college. The Department continues to support legislation, such as the *Improving America's Schools Act* and the *School-to-Work Opportunities Act*, that challenges states to develop high standards of achievement and accountability in the core academic subjects for all children *(priority 4)*. In addition, President Clinton continues to urge the states to adopt Voluntary National Tests to determine whether children are meeting national standards for fourth-grade reading and eighth-grade math.

However, the highest standards in the world will do little good if every child does not have caring, competent, and qualified teachers *(priority 5)*; access to new technology *(priority 6)*; and a school environment conducive to learning *(priority 7)*. The Department supports these priorities in many ways. For example, in addition to using the public forum to promote excellence and accountability in teaching, the Department allocated $335 million in fiscal year 1999 to the Dwight D. Eisenhower Professional Development Program. Moreover, the Department is examining ways to strengthen or redirect other programs and grants to address its top concern within priority five—recruitment, preparation, and support for beginning teachers.

To help all students become technologically literate *(priority 6)*, the Department supports a number of initiatives and programs designed to connect every U.S. school and classroom to the Internet; provide access to modern computers for all teachers and students; develop effective and engaging software and online learning resources as an integral part of school curriculum; and provide all teachers the training and support they need to help students learn through computers and the Internet. For example, through the Star Schools Program, multistate providers of telecommunications services provide instruction in academic subjects, various types of supplemental programming, and professional development for teachers. The Department has awarded more than $125 million to telecommunications partnerships since Star Schools was authorized in 1988.

Finally, the Department supports several programs and initiatives devoted to creating schools that are strong, safe, drug-free, and disciplined *(priority 7)*. The Safe and Drug-Free Schools Programs, funded at $566 million for fiscal year 1999, is the Department's primary vehicle for meeting the seventh priority through education and prevention activities in the schools.

Information about specific programs cited in this section, as well as many others that support the seven priorities, may be found on the Web at http://www.ed.gov/inits.html. Individuals may also find out more about Department of Education programs by calling 1–800–USA–LEARN (872–5327).

Conclusion

As individuals, families, and the nation confront an increasingly knowledge-driven, skills-based economy, mastering challenging content and skills has never been more important. Today's high school graduates must be able to read, write, and compute proficiently; find and use resources; frame and solve problems; and continually learn new technologies and skills to compete in the workplace. The seven priorities are designed to focus the U.S. Department of Education on developing a coordinated strategy for helping all children obtain these critical proficiencies, prepare for college, and learn for a lifetime.

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Priority 1: Reading

All students will read independently and well by the end of 3rd grade.

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Academic Interventions for Children with Dyslexia Who Have Phonological Core Deficits

Julie A. Frost and Michael J. Emery

Overview

Approximately 3% to 6% of all school-aged children are believed to have developmental reading disabilities, or dyslexia. In fact, almost 50% of children receiving special education have learning disabilities, and dyslexia is the most prevalent form. Consequently, dyslexia has been given considerable attention by researchers and extensive literature exists on instruction and remediation methods.

Dyslexia is a neurocognitive deficit that is specifically related to the reading and spelling processes. Typically, children classified as dyslexic are reported to be bright and capable in other intellectual domains. Current research indicates that the vast majority of children with dyslexia have phonological core deficits. The severity of the phonological deficits varies across individuals, and children with these deficits have been shown to make significantly less progress in basic word reading skills compared to children with equivalent IQs. For example, some experts report that between ages 9 and 19, children with dyslexia who have phonological deficits improve slightly more than one grade level in reading, while other children with learning disabilities (LD) in the same classroom improve about six grade levels. Without direct instruction in phonemic awareness and sound-symbol correspondences, these children generally fail to attain adequate reading levels.

Definition

Phonological core deficits entail difficulty making use of phonological information when processing written and oral language. The major components of phonological deficits involve phonemic awareness, sound-symbol relations, and storage and retrieval of phonological information in memory. Problems with phonemic awareness are most prevalent and can coexist with difficulties in storage and retrieval among children with dyslexia who have phonological deficits.

Phonemic awareness refers to one's understanding of and access to the sound structure of language. For example, children with dyslexia have difficulty segmenting words into individual syllables or phonemes and have trouble blending speech sounds into words.

Storage of phonological information during reading involves creating a sound-based representation of written words in working memory. Deficits in the storage of phonological information result in faulty representations in memory that lead to inaccurate applications of sound rules during reading tasks.

Retrieval of phonological information from long-term memory refers to how the child remembers pronunciations of letters, word segments, or entire words. Children with dyslexia may have difficulty in this area, which leads to slow and inaccurate recall of phonological codes from memory.

Classification and Identification

Historically, classification criteria for developmental dyslexia have been vague and, consequently, open to interpretation. For example, according to the *Diagnostic and Statistical Manual of Mental Disorders*, revised 3rd edition (DSM-III-R), developmental reading disorder (dyslexia) may be diagnosed if reading achievement is "markedly below" expected level, interferes with academic achievement or daily living skills; and is not due to a defect in vision, hearing, or a neurological disorder. Because of such imprecise guidelines, educators and clinicians use a wide variety of criteria when defining dyslexia.

School psychologists classify children based on federal and state learning disability placement criteria. The federal guidelines for LD placement are as follows:

1. Disorder in one or more of the basic psychological processes (memory, auditory perception, visual perception, oral language, and thinking).
2. Difficulty in learning (speaking, listening, writing, reading, and mathematics).
3. Problem is not primarily due to other causes (visual or hearing impairment, motor disabilities, mental retardation, emotional disturbance, or economic environment or cultural disadvantage).
4. Severe discrepancy between apparent potential and actual achievement.

While the federal guidelines are more specific than the DSM-III-R criteria, they are still rather nonspecific. Consequently, eligibility criteria for LD services for reading disabilities vary from state to state.

Fortunately, there is some general agreement among educators, clinicians, and researchers in terms of identifying phonological deficits in children with dyslexia. Phonological processing impairment is generally identified by significantly impaired performance (generally, a standard score less than 85) on phonological processing tasks. The following include some assessment measures that may be used to identify these phonological core deficits:

Features	*Assessment Techniques*
General reading ability	Metropolitan Achievement Tests - Reading Gray Oral Reading Tests, 3rd Ed. WRAT-R-Reading WRMT-Word Identification
Storage and Retrieval	SB-4-Memory for Sentences Verbal Selective Reminding Test Rapid Automatized Naming Test Boston Naming Test
Phonological awareness	WRMT-Word Attack Test of Awareness of Language Segments (TALS) Test of Auditory Analysis Skills (TAAS) Lindamood Auditory Conceptualization Test Decoding Skills Test

Suggested Interventions

- Teach metacognitive strategies. Teach children similarities and differences between speech sounds and visual patterns across words.
- Provide direct instruction in language analysis and the alphabetic code. Give explicit instruction in segmenting and blending speech sounds. Teach children to process progressively larger chunks of words.
- Use techniques that make phonemes more concrete. For example, phonemes and syllables can be represented with blocks where children can be taught how to add, omit, substitute, and rearrange phonemes in words.
- Make the usefulness of metacognitive skills explicit in reading. Have children practice them. Try modeling skills in various reading contexts. Review previous reading lessons and relate to current lessons.
- Discuss the specific purposes and goals of each reading lesson. Teach children how metacognitive skills should be applied.
- Provide regular practice with reading materials that are contextually meaningful. Include many words that children can decode. Using books that contain many words children cannot decode may lead to frustration and guessing, which is counterproductive.
- Teach for automaticity. As basic decoding skills are mastered, regularly expose children to decodable words so that these words become automatically accessible. As a core sight vocabulary is acquired, expose children to more irregular words to increase reading accuracy. Reading-while-listening and repeated reading are useful techniques for developing fluency.
- Teach for comprehension. Try introducing conceptually important vocabulary prior to initial reading and have children retell the story and answer questions regarding implicit and explicit content. Teach children the main components of most stories (i.e., character, setting, etc.) and how to identify and use these components to help them remember the story.
- Teach reading and spelling in conjunction. Teach children the relationship between spelling and reading and how to correctly spell the words they read.
- Provide positive explicit and corrective feedback. Reinforce attempts as well as successes. Direct instruction and teacher-child interactions should be emphasized.

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Associations

Division for Learning Disabilities (DLD)
The Council for Exceptional Children
1920 Association Drive
Reston, VA 20191
703/620-3660

Learning Disabilities Association (LDA)
4156 Library Road
Pittsburgh, PA 15234
412/341-1515

National Adult Literacy & Learning Disabilities (ALLD) Center
Academy for Educational Development
1875 Connecticut Avenue, NW
Washington, DC 20009
202/884-8185

National Center for Learning Disabilities (NCLD)
381 Park Avenue, Suite 1420
New York, NY 10016
212/545-7510; (888)575-7373

Orton Dyslexia Society
Chester Building, Suite 382
8600 La Salle Road
Baltimore, MD 21286-2044
(410)296-0232, 800/222-3123

Electronic Resources

Digests published by the ERIC Clearinghouse on Disabilities and Gifted Education are available for downloading or online reading on the AskERIC Virtual Library <ericir.syr.edu>.
The following Internet sites provide additional information on students with disabilities:

Gopher sites:	gopher.sjuvm.stjohns.edu St. John's University Electronic Rehabilitation Resource Center gopher.hawking.u.washington.edu University of Washington
Listservs:	
LD-List	Learning disability information exchange Address: majordomo@curry.edu Post to: ld-list@curry.edu
SPEDTALK	Current issues in special education, professionally oriented Address: majordomo@virginia.edu Message: subscribe spedtalk your-full-email-address Post to: spedtalk@virginia.edu
SPCEDS-L	Special education students list Address: listserv@ubvm.bitnet Post to: spceds-l@ubvm.bitnet

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ERIC Clearinghouse on Disabilities and Gifted Education
THE COUNCIL FOR EXCEPTIONAL CHILDREN
1920 Association Drive • Reston, VA 20191-1589
1-800-328-0272
E-mail: ericec@cec.sped.org Internet: http://www.cec.sped.org/ericec.htm

ERIC/OSEP Digest

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Beginning Reading

Mary K. Fitzsimmons
From an Article by Edward J. Kameenui

How to teach reading has been the subject of much debate over the years. One reason may be because, to the reading public, reading seems to be a fairly easy and natural thing to do. However, this apparent ease masks the very real and complex processes involved in the act of reading.

The truth is that learning to read is anything but natural. In fact, it does not develop incidentally; it requires human intervention and context. While skillful readers look quite natural in their reading, the act of reading is complex and intentional; it requires bringing together a number of complex actions involving the eyes, the brain, and the psychology of the mind (e.g., motivation, interest, past experience) that do not occur naturally.

The two processes described here - phonological awareness and word recognition - are essential to teaching beginning reading to children with diverse learning and curricular needs, such as students with learning disabilities. For these children, as for many children, learning to read is neither natural nor easy. Also, research has made it clear that, for those students who fall behind in reading, opportunities to advance or catch up diminish over time. Therefore, the teaching of beginning reading is of supreme importance and must be purposeful, strategic, and grounded in the methods proven effective by research.

The Sound of Words

The "unnatural" act of reading requires a beginning reader to make sense of symbols on a page (i.e., to read words and interpret the meanings of those words). In the case of English, these symbols are actually sequences of letters that represent an alphabetic language, but more important, the printed letters can also be translated into sounds. To translate letters into sounds, a beginning reader should "enter school with a conscious awareness of the sound structure of words and the ability to manipulate sounds in words" (Smith, Simmons, & Kameenui, 1995, p. 2). This is referred to as *phonological awareness*.

The research is clear and substantial, and the evidence is unequivocal: Students who enter first grade with a wealth of phonological awareness are more successful readers than those who do not.

Some examples of phonological awareness activities include asking a child to respond to the following (Stanovich, 1994):

1. What would be left out if the /k/ sound were taken away from *cat*?
2. What do you have if you put these sounds together: /s/, /a/, /t/?
3. What is the first sound in rose?

In these activities, students do not see any written words or letters. Instead, they listen and respond entirely on the basis of what they hear.

For some children, performing these activities may be difficult for various reasons. For example, they may not be able to process the sounds or phonemes that comprise a word. Other children simply cannot hear the different sounds in a word, although the problem is not with hearing acuity, but with the nature of phonemes. Phonemes are easily distorted, and the boundaries for determining where one sound ends and the other begins are not entirely clear to the ear and brain.

Phonological awareness activities build on and enhance children's experiences with written language (e.g., print awareness) and spoken language (e.g., playing with words). These activities also set children's readiness and foundation for reading, especially the reading of words. Children who have been immersed in a literacy environment in which words, word games, rhyming, and story reading are plentiful are more likely to understand what reading is all about than those who have experienced an impoverished literacy environment. A beginning reader with successful phonological awareness is ostensibly ready for word recognition activities.

Teaching Tips: Phonological Awareness and Alphabetic Understanding

1. Make phonological awareness instruction explicit. Use conspicuous strategies and make phonemes prominent to students by modeling specific sounds and asking students to reproduce the sounds.
2. Ease into the complexities of phonological awareness. Begin with easy words and progress to more difficult ones.
3. Provide support and assistance. The following research-based instructional sequence summarizes the kind of scaffolding beginning readers need:
   (a) Model the sound or the strategy for making the sound.
   (b) Have students use the strategy to produce the sound.
   (c) Repeat steps (a) and (b) using several sounds for each type and level of difficulty.

(d) Prompt students to use the strategy during guided practice.
(e) Use steps (a) through (d) to introduce more difficult examples.

4. Develop a sequence and schedule, tailored to each child's needs, for opportunities to apply and develop facility with sounds. Give this schedule top priority among all classroom activities.

Reading Words

According to Juel (1991), children who are ready to begin reading words have developed the following prerequisite skills. They understand that (a) words can be spoken or written, (b) print corresponds to speech, and (c) words are composed of phonemes (sounds). (This is phonological awareness.) Beginning readers with these skills are also more likely to gain the understanding that words are composed of individual letters and that these letters correspond to sounds. This "mapping of print to speech" that establishes a clear link between a letter and a sound is referred to as *alphabetic understanding*.

The research on word recognition is clear and widely accepted, and the general finding is straightforward. Reading comprehension and other higher-order reading activities depend on strong word recognition skills. These skills include phonological decoding. This means that, to read words, a reader must first see a word and then access its meaning in memory (Chard, Simmons & Kameenui, 1995).

But to do this, the reader must do the following:

1. Translate a word into its phonological counterpart, (e.g., the word *sat* is translated into the individual phonemes /s/, /a/, and /t/).
2. Remember the correct sequence of sounds.
3. Blend the sounds together.
4. Search his or her memory for a real word that matches the string of sounds (/s/, /a/, and /t/).

Skillful readers do this so automatically and rapidly that it looks like the natural reading of whole words and not the sequential translation of letters into sounds and sounds into words. Mastering the prerequisites for word recognition may be enough for many children to make the link between the written word and its meaning with little guidance. For some children, however, more explicit teaching of word recognition is necessary.

Beginning reading is the solid foundation on which almost all subsequent learning takes places. All children need this foundation, and research has shown the way to building it for students with diverse needs and abilities.

Teaching Tips: Reading Words

1. Develop explicit awareness of the connection between sounds and letters and sounds and words: Teach letter-sound correspondence by presenting the letter and modeling the sound. Model the sounds of the word, then blend the sounds together and say the word.
2. Attend to (a) the sequence in which letter-sound correspondences are taught; (b) the speed with which the student moves from sounding out to blending words to reading connected text; and (c) the size and familiarity of the words.
3. Support learning by modeling new sounds and words, correcting errors promptly and explicitly, and sequencing reading tasks from easy to more difficult.
4. Schedule opportunities to practice and review each task, according to the child's needs, and give them top priority.

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ERIC Clearinghouse on Disabilities and Gifted Education
THE COUNCIL FOR EXCEPTIONAL CHILDREN
1920 Association Drive • Reston, VA 20191-1589
1-800-328-0272
E-mail: ericec@cec.sped.org Internet: http://www.cec.sped.org/ericec.htm

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Beginning Reading and Phonological Awareness for Students with Learning Disabilities

Jane Burnette

Learning to read begins well before the first day of school. When Ron and Donna tell nursery rhymes to their baby, Mia, they are beginning to teach Mia to read. They are helping her to hear the similarities and differences in the sounds of words. She will begin to manipulate and understand sounds in spoken language, and she will practice this understanding by making up rhymes and new words of her own. She will learn the names of the letters and she will learn the different sounds each letter represents. As she gets a little older, Ron and Donna will teach her to write letters and numbers that she will already recognize by their shapes. Finally, she will associate the letters of the alphabet with the sounds of the words she uses when she speaks. At this point, she is on her way to learning to read!

When she tries to read books with her parents, at school, and on her own, Mia will learn *how* to *learn* new words by sounding them out. With more practice, she will begin to recognize familiar words easily and quickly, and she will know the patterns of spelling that appear in words and the patterns of words as they appear in sentences. She will be able to pay attention not just to the letters and words, but to the meanings they represent. Ultimately, Mia will be able to think about the meaning of the text as she reads.

Where does phonological awareness fit into this process?

Key to the process of learning to read is Mia's ability to identify the different sounds that make words and to associate these sounds with written words. In order to learn to read, Mia must be aware of phonemes. A phoneme is the smallest functional unit of sound. For example, the word cat contains three distinctly different sounds. There are 44 phonemes in the English language, including letter combinations such as /th/.

In addition to identifying these sounds, Mia must also be able to manipulate them. Word play involving segmenting words into their constituent sounds, rhyming words, and blending sounds to make words is also essential to the reading process. The ability to identify and manipulate the sounds of language is called phonological awareness. Adams (1990) described five levels of phonological awareness ranging from an awareness of rhyme to being able to switch or substitute the components in a word. While phonological awareness affects early reading ability, the ability to read also increases phonological awareness (Smith, Simmons, & Kameenui, 1995).

Many children with learning disabilities have deficiencies in their ability to process phonological information. Thus, they do not readily learn how to relate letters of the alphabet to the sounds of language (Lyon, 1995). For all students, the processes of phonological awareness, including phonemic awareness, must be explicitly taught.

Children from culturally diverse backgrounds may have particular difficulties with phonological awareness. Exposure to language at home, exposure to reading at an early age, and dialect all affect the ability of children to understand the phonological distinctions on which the English language is built. Teachers must apply sensitive effort and use a variety of techniques to help children learn these skills when standard English is not spoken at home (Lyon, 1994).

How is phonological awareness taught?

To teach phonological awareness, begin by demonstrating the relationships of parts to wholes. Then model and demonstrate how to segment short sentences into individual words, showing how the sentence is made up of words. Use chips or other manipulatives to represent the number of words in the sentence. Once the students understand part-whole relationships at the sentence level, move on to the word level, introducing multisyllable words for segmentation into syllables. Finally, move to phoneme tasks by modeling a specific sound and asking the students to produce that sound both in isolation and in a variety of words and syllables.

It is best to begin with easier words and then move on to more difficult ones. Five characteristics make a word easier or more difficult (Kameenui, 1995):

1. The size of the phonological unit (e.g., it is easier to break sentences into words and words into syllables than to break syllables into phonemes).

2. The number of phonemes in the word (e.g., it is easier to break phonemically short words such as no, see and cap than snort, sleep or scrap).

3. Phoneme position in words (e.g., initial consonants are easier than final consonants and middle consonants are most difficult).

4. Phonological properties of words (e.g., continuant such as /s/ and /m/ are easier than very brief sounds such as /t/).

5. Phonological awareness challenges. (e.g., rhyming and initial phoneme identification are easier than blending and segmenting.)

Examples of phonological awareness tasks include phoneme deletion ("What word would be left if the /k/ sound were taken away from cat?"); word-to-word matching ("Do pen and pipe begin with the same sound?"); blending ("What word would we have if we blended these sounds together: /m/ /o/ /p/?"); phoneme segmentation ("What sounds do you hear in the word hot?"); phoneme counting ("How many sounds do you hear in the word cake?"); and rhyming ("Tell me all of the words that you know that rhyme with the word cat?") (Stanovich, 1994).

Beginning readers require more direct instructional support from teachers in the early stages of teaching. This is illustrated in the following example: The teacher models the sound or the strategy for making the sound, and has the children use the strategy to produce the sound. It is very important that the teacher model the correct sounds. This is done using several examples for each dimension and level of difficulty. The children are prompted to use the strategy during guided practice and more difficult examples are introduced. A sequence and schedule of opportunities for children to apply and develop facility with sounds should be tailored to each child's needs, and should be given top priority. Opportunities to engage in phonological awareness activities should be plentiful, frequent, and fun (Kameenui, 1995).

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A companion digest, #E539, and a companion ERIC minibibliography are available on request.

Jane Burnette is a publications manager at ERIC EC.

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ERIC CLEARINGHOUSE ON URBAN EDUCATION

DIGEST

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BUILDING ON EXISTING STRENGTHS TO INCREASE FAMILY LITERACY

Parents with good literacy, parenting, and job skills can help boost their children's academic achievement, as well as improve their own lives. Unfortunately, many families living in poverty lack literacy skills, as defined by American mainstream culture. While most "have developed complex problem solving skills that enable them to survive" in very difficult circumstances, their deficiency in traditional skills exacerbates the problems they face (Taylor, 1993, p. 551).

Family literacy programs around the country have been successful in breaking the cycle of intergenerational literacy deficiency, however. Early findings of the National Center for Family Literacy (NCFL, 1994) suggest that the programs are more effective than typical adult education programs with adult family members, and more effective than child-focused programs with disadvantaged children. Moreover, parents' success in a literacy program gives them new access to mainstream American culture and promotes a richer relationship with their children and involvement in the children's school (Come & Fredericks, 1995; Gadsden, 1996; NCFL, 1994).

Much information is available about program components effective in teaching literacy skills. Less attention has been paid to the value of building on families' existing skills, diverse cultures and languages, and life experiences, although doing so has been shown to increase program efficacy. This digest, therefore, focuses on strategies for reaching families that reflect the strengths they already have.

General Program Principles

The Federal Even Start Family Literacy Program, authorized in 1988, is the catalyst for much of the family literacy activity nationally. It provides funds for local partnership programs to deliver literacy services to low-income families with at least one adult eligible for Adult Basic Education. Program participants are ethnically diverse, frequently urban and limited in English proficiency, and, increasingly, teenage parents and the very poor. In 1996-97 Even Start supported 637 projects serving 34,400 parents and their children (Tao, Gamse, & Tarr, 1998).

Funded programs must adhere to Even Start's core organizational, curricular, and evaluation requirements and goals. They must provide parents with instruction in a variety of literacy skills and assist them in promoting their children's educational development; they also must provide the children with an early childhood education. Many programs, in addition, specifically help adults get a GED and develop marketable job skills, and most work with community agencies to provide a full range of social services.

Despite Even Start's mandates, program models vary widely. Some are designed for replication nationally, use a fully refined and evaluated curriculum, and receive additional major support from private foundations. There are, for example, hundreds of NCFL sites. Others are single centers that are developed, managed, and supported by a collaboration of local educational institutions and groups, in direct response to community needs (Come & Fredericks, 1995; Griswold & Ullman, 1997; NCFL, 1994).

Customization for Diverse Families

The degree to which programs reflect and involve the families they serve varies, although multi-site programs tend to be more generic in organization and curriculum. Another difference among programs is the extent of their acceptance of a "deficit" model for disadvantaged parents, which considers poverty and literacy deficiencies a personal, rather than a social, problem. This philosophy results in a curriculum that directs parents in the program's understanding of the correct way to learn and raise children, instead of appreciating and using parents' innate and experienced-based knowledge as a building block for additional skills development (Taylor, 1993).

An approach to literacy development that conforms to Even Start's education principles, but also validates the participants' capabilities, increases a program's potential for success. When staffed by individuals who respect diversity and different kinds of knowledge, a program can address issues of race, class, and gender, and can help parents overcome feelings of powerlessness that may diminish their belief that personal literacy development will improve their family's lives (Gadsden, 1996; Strickland, 1996).

Family Recruitment and Involvement

Recruitment strategies that reflect cultural diversity and local norms, stress personal contact, and use former program participants are most effective. Distribution of informational materials and publicity in local businesses and centers increases awareness of the program. Active support from community and religious leaders is an important recommendation for wary families (Dwyer, 1995). Special outreach efforts can attract fathers who may think they are too busy to participate or may be ashamed about their lack of skills.

Because parents have different reasons for wanting the services of a family literacy program, and may not even be aware that their needs can be met through literacy development, a varied curriculum increases a program's attractiveness. Parents may want specific instruction in how to help their children learn, or strategies for disciplining them. They may want to learn English, increase their own skills to get a better job, function more competently in society, or simply be more personally fulfilled. Parents who feel like successful learners, no matter what the curriculum, can convey the sense of accomplishment to their children (Griswold & Ullman, 1997; Shanahan, Mulhern, & Rodriguez-Brown, 1995).

Considering themselves partners in the learning process both engages and empowers parents (Strickland, 1996). Curriculum developers can involve parents by asking them about the circumstances in which they would use English or other literacy skills (Wrigley, 1994). For example, staff at Project FLAME, in Chicago, IL, helped limited English proficient parents add an academic component to a crafts course they wanted to design. Staff also compromised on its own ideas about language learning to incorporate into English classes use of grammar books and workbooks because learners believed those resources "are synonymous with good teaching" (Shanahan et

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al., 1995, p. 589). Involving parents in setting standards ensures the standards will be supported (Wrigley, 1994).

Curriculum

Certain curriculum components have been shown to increase family literacy program effectiveness with diverse learners. Curriculum can facilitate learning by helping participants, through interactions with the staff and each other, do the following (Butkus & Willoughby, 1995; Gadsden, 1996; Griswold, & Ullman, 1997; Shanahan et al., 1995):

- Understand and develop a range of child- and literacy-development perspectives; get mutual support and help; develop respect for cultural differences; and build self-help, communication, and interpersonal skills.
- Use their own knowledge and beliefs as a foundation for additional learning.
- Identify and meet personal goals, and become an advocate for themselves and their children.
- Build communities and networks for support and political and social action.

By encouraging talking, reading (of multicultural materials), and writing, programs can create opportunities for behavior that develop traditional literacy skills, while showing participants that their native way of communicating with their children (such as oral story-telling) is also a valid type of literacy activity (Heath, 1982).

The Family Literacy Involvement Through Education (FLITE) program in the Bronx, NY, for example, uses health, stress, discipline, and cooking as curriculum topics to provide parents with useful information while also increasing their literacy skills. Parents who had never used written recipes learn to understand cookbook formats, try new recipes, and document their own. As part of its preschool program, FLITE staff members conduct home visits. In class, to support children's language development, English- and Spanish-speaking teachers work with the children and their parents, who may be learning English as a Second Language in the adult program, in a dual-language classroom (Griswold & Ullman, 1997).

Several California programs work with refugees who have little experience with formal schooling or even a written language. Participants are given tours of cultural sites as a way of introducing them to different kinds of literacy and helping them understand that they already are literate in certain ways. Refugees are also encouraged to share their experiences, many of which are painful, as a way of both documenting them and helping the story-teller process them. Promoting the creativity of all parents through poetry writing, production of newsletters, and playwriting and production (in English and participants' native languages) not only develops a range of skills but also helps transmit culture across generations (Wrigley, 1994).

Conclusion

Developing the skills of parents to enable them to be more personally successful and fulfilled, and to more effectively promote their children's learning at home and achievement in school, is the goal of all family literacy programs. Programs which consciously draw on the existing abilities of families in program design and curriculum, and which use social and cultural issues as a context for learning, have an additional goal: they want to build the participants' self-esteem through an appreciation of their own knowledge and instincts, help them understand that they are not to blame for their circumstances, and "empower [them] to direct their own learning and use it for their own purposes" (Auerbach, 1995, cited in Griswold & Ullman, 1997, p. 25).

—Wendy Schwartz, Teachers College, Columbia University

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ERIC Clearinghouse on Urban Education, Institute for Urban and Minority Education, Box 40, Teachers College, Columbia University, New York, NY 10027, (800) 601-4868. Erwin Flaxman, Director. Wendy Schwartz, Managing Editor.

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by Bettina Lankard Brown

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Family Literacy: Respecting Family Ways

Throughout history, the family has been the primary source for learning. Before the advent of schools, children were taught at home by their parents, older siblings, grandparents, and/or other relatives. With the introduction of formal schooling, the teaching of values, cultural practices, and skills such as cooking, sewing, farming, and trapping continued to originate in the home. Today, in spite of the vast public and private educational systems, some parents are choosing to teach their children at home, confident in their belief that teaching in the context of family is the best way to ensure the learning the desire.

Public agencies, such as the National Center for Family Literacy, and private foundations, such as the Barbara Bush Foundation for Family Literacy, have shown their support of the family as a primary place of learning by funding programs that provide training and assistance to families for the promotion of literacy. This *Digest* discusses the family as a preferred place of literacy development and highlights family literacy initiatives that reflect respect for the family as a site of learning.

A Contextual Connection

Because the family exists in a network of community, its members are continually communicating, negotiating, and otherwise interacting with schools and business institutions in the workplace, within the context of their cultural and community orientations (Bhola 1996). The social aspect of these relationships suggests that the development of programs and curriculum must focus on the family unit as a whole, building upon the cultural and knowledge capital of the entire family, and acknowledging gender and age power relationships within the family.

Teaching literacy within the context of the family and in ways that are meaningful to family members is an approach described by Auerbach (1989), who contends that the cultural and social practices of a family are key considerations in the development of family literacy programs. Auerbach's "socio-contextual model" is congruent with the contextual teaching and learning approach to knowledge development. This approach is based on the proposition that students learn best when the learning is meaningful to them and situated in the context of their social environments. This model acknowledges that there are family-relevant, as well as school-relevant, ways of bringing literacy into the home. It acknowledges the positive contributions of family members and takes into account the influence that cultural values and practices have on literacy development.

The Value of Different Literacies

Because school-based family literacy efforts are typically directed to people from poor, minority, and/or immigrant families who lack English proficiency, some of these programs assume that these individuals have little to offer and that the school must determine the forms of literacy that are acceptable for the family. Referring to this model as deficit driven, Taylor ("Book Notes" 1998) challenges educators to redefine the relationship of literacy to poverty and socioeconomic status and to acknowledge the wealth of knowledge members of these families offer, e.g., their languages, multiple approaches to literacy, and ability to deal with life events.

Although all literacies are not equally valued in our society, there are ways in which all parents make literacy contributions and that awareness of these contributions can occur when parents engage in literacy experiences that have meaningful application in their lives (Crowther and Tett 1997). The FLITE (Family Literacy Involvement Through Education) program is one example of an effort designed to involve participants in literacy development through the sharing of real-life experiences (Griswold and Ullman 1997). Evolving through a partnership between a Bronx public school and the City University of New York, FLITE featured a series of workshops, one of which engaged participants in recipe sharing as a means of enhancing reading, writing, and speaking skills. Some participants prepared dishes that they brought for others to taste; some shared written recipes of dishes popular in their cultures; some shared memories of times when the dishes were served in their family homes; and some told about the countries from which their dishes originated. Such workshops are a powerful tool for enhancing the knowledge and literacy of all participants and are an example of contextual learning in the social environment of community.

Communication about personal experiences was also a part of the "Connect" project conducted in a poor working-class area of Edinburgh, Scotland (Crowther and Tett 1997) . Participants in the program activities were encouraged to discuss their school experiences and to describe some of the ways in which they were helping their children toward literacy. By highlighting similarities between the participants' and their teacher's pedagogic practices, the act of teaching became less threatening.

Variations in Family Literacy Practices

Most educational approaches to family literacy recognize the parents, especially the mother, as a child's most important teacher. "This restricted notion of family literacy pays too much attention to the mother-child dyad and fails to take advantage of or take into account multiple other channels of literacy influences within the family" (Puchner 1997, p. 3). It fails to recognize the value of literacy transmission from adult to adult, child to adult, or sibling to sibling as occurs in various community cultures.

In a study of language skills of Southeast Asian immigrants in the United States, researchers found that literacy transfer typically occurred from sibling to sibling because lack of English proficiency limited parents' ability to help their children (Puchner 1997). Parents who have limited English proficiency, for example, often lack confidence in their ability to participate in family literacy programs. However, literacy workers can help these parents to recognize ways in which they already contribute to their children's literacy, e.g., by allotting a time and space for their children to do homework and/or by observing, or having older children observe, homework activities. Once parents recognize that their efforts to facilitate literacy development are worthwhile, they become less apt to succumb to other pressures on their time and energy that could divert them from practices that further their own and their children's education.

Drawing upon the personal interests and experiences of parents can often lead them to adopt new literacy practices. For example, in the FLITE "home visit" program, a father who was unable to read or write was coached to tell a story about his personal experiences using a tape recorder. The family literacy worker asked the man's wife to listen to the recording and write down on paper the words he had recorded so she could read it back to him. Later the family worker brought a picture book to the home for the father and child to look at while he told a story he made up to go along with the pictures. This example illustrates three aspects of the FLITE program's approach to literacy (Griswold and Ullman 1997, p. 16): (1) the range of purposes for literate behaviors is broad, (2) learning experiences can be generative, and (3) learning does not have to be an individual experience.

Power Considerations in Literacy Outcomes

Power issues, particularly those that are education related, can influence a family's literacy practices (Puchner 1997; Tett and St. Clair 1997). Parents who cannot speak English or who believe that they have no right to interfere with a school's practices may avoid contact with the school and its teachers, which tends to perpetuate the literacy status quo (Tett and St. Clair 1997). "If parents are to be genuine partners in their children's education, then they must be able to share power, responsibility, and ownership in ways which show a high degree of mutuality" (p. 111).

Morrow and Young (1996) note the importance of power sharing within the family through their description of the Family WRAP (Writing and Reading Appreciation for Parents and Pupils) program, an inner-city school district program involving African-American and Latino families with children in the first to third grades. In this program, parents and children were partnered in reading, writing, and storytelling activities, with interaction being the key ingredient. Throughout the program, parents were asked for their input. As a result, the parents began to realize that they shared power, not only with their children in learning, but with the school in creating a literacy program that was meaningful to them. The parents became "more willing to share their ideas . . ., ask questions, and express their concerns" (Morrow and Young 1996, p. 17). Through their involvement in WRAP, they "felt more comfortable about coming to school and participating, and had more self-confidence about being able to help their children" (ibid.).

The Community Connection to Family Literacy

Communities have become diverse in cultures, workplaces, interests, and political orientations. "Family literacy practitioners, in the process of program design, and while making choices of curriculum, will have to look at the existing conditions of families in question, in the context of both history and subaltern history of race- and class-related experiences of those families" (Bhola 1996, p. 41). They need to look into how the workplace fits into the lives of the families.

In some communities, literacy programs are conducted on the job. Winthrop University in Rock Hill, South Carolina, for example, has a literacy program for its custodial, gardening, and refuse collection department employees, some of whom have less than a sixth-grade education. Participants attend 2-hour sessions each week for a 12-week period during which they and their families engage in literacy activities that involve the reading of children's, work-related, and personal literature (Richards 1998). The "Using Children's Literature" module of the program involves participants in reading activities that include prediction, characterization, sequencing, inferencing, and imagery. During class, the participants record their reactions to the readings in a log book; at home, they read and discuss the books with family members. The "Using Work-Related Literature" module involves participants in reading about hazardous materials and safety on the job and in the home. The "Using Personal Literature" module involves participants in writing and sharing stories about their life experiences with others in class and, later, with their children at home. The three modules of this program reflect an exemplary effort to connect home, school, and workplace literacy applications.

Summary

The importance of centering family literacy in the context of its "real-world" application in the home and of drawing upon the experiences and strengths of the families being served is highlighted by the examples described in this Digest. The successes of these literacy programs reinforce the notion that generalizations about literacy program participants are unfair. They underscore the need to bring together in mutual respect and collaboration members of the family unit, school, and community.

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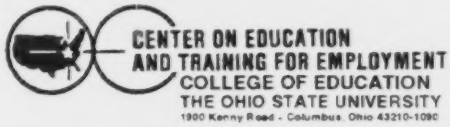
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1900 Kenny Road - Columbus, Ohio 43210-1090

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FAMILY LITERACY STRATEGIES TO SUPPORT CHILDREN'S LEARNING

Parents' literacy skills, along with their attitudes about learning and formal education, have an immense impact on their children's academic achievement. Poor parents, despite few opportunities for education or bad school experiences, are still often able to foster their children's development through innate, non-traditional literacy activities. However, they may be unable to help them in ways that support and enhance the school's education program (Taylor, 1993).

To provide parents with skills that increase their verbal and math literacy, and to assist them in promoting their children's educational development, local family literacy programs operate throughout the country. Many are supported by the Federal Even Start Family Literacy Program, authorized in 1988 to fund local partnerships that provide instruction to low-income parents. Even Start now supports more than 637 projects reaching 34,400 families (Tao, Gamse, & Tarr, 1998). Some are independent single-site centers that were created by local educators and activists in direct response to community needs. Others, established by national organizations that receive additional funding from private foundations, largely adhere to a pre-established curriculum and structure (Come & Fredericks, 1995; National Center for Family Literacy, NCFL, 1994).

Most evaluations of family literacy programs have found them to be effective in developing the skills of both parents and children (NCFL, 1994; Tao et al., 1998). Therefore, to help guide family literacy program developers in shaping their curriculum, and educators and community leaders in creating independent parenting programs, this digest describes the parenting education component of successful urban programs.

General Program Principles

Family literacy programs have three basic components: ***adult education***, which comprises instruction in reading, writing, computing, and problem-solving, and may also include English as a Second Language and GED classes and jobs skills training; ***parenting education***, which helps families actively participate in their children's education at home and at school; and ***early childhood education*** for preschoolers.

Participants in family literacy programs are ethnically and culturally diverse, speak a variety of native languages, and, increasingly, are teenage parents and very poor. In many urban areas, they are refugees whose native countries had little traditional literacy, and whose past includes physically or emotionally debilitating experiences. Despite such personal challenges, families have a wide range of experienced-based knowledge that can inform program development. Thus, developers have found it useful to draw on the strengths, interests, concerns, and goals of diverse families by involving them in the design, implementation, and evaluation of their own and their children's learning programs. They respect and incorporate into the program families' naturally-occurring literacy activities and traditions, including, as appropriate, their intergenerational orientation. Such collaboration with parents facilitates learning by maximizing participants' familiarity with curriculum topics and increasing their self-confidence and feelings of empowerment. It also produces a group identity and a safe and supportive atmosphere for sharing concerns, and promotes attendance and retention. Finally, collaboration helps disenfranchised families believe that personal literacy development will improve their family's lives and overcome their feelings of powerless (Dwyer, 1995; Gadsden, 1996; NCFL, 1994).

Parenting Skills Component

The parenting skills component of family literacy programs generally comprises: (1) training parents to be their children's primary teacher and full partners in the children's education, and (2) interactive literacy activities involving parents and their children (Benjamin & Lord, 1996).

Place of Service

Most programs provide services both at their centers and in the families' home. Families learn through field trips and informal activities off site. Literacy learning at all locations is connected to the instruction at centers, with much of it provided in the context of early childhood development, parenting, use of community resources, and employment.

During home visits staff members build trust; learn about a family's naturally-occurring literacy activities, such as storytelling; demonstrate how literacy education can occur in any place and at any time; and help parents develop new literacy strategies to encourage their children's development. For example, staff can help families make television viewing a learning and interactive experience that develops critical thinking skills (Parker & Wuelser, 1995).

Center spaces that house parenting classes and family literacy activities promote comfort, sharing of insights and information, and creativity, through furnishings such as couches and work tables for group projects. Many have kitchens and dining areas because meal preparation and communal meals are venues for learning a variety of skills. Available resources include adult learning materials on parenting and other topics, and children's books and toys (Dwyer, 1995; Thomas, 1995).

Curriculum

The most engaging curriculum, activities, and learning materials provide valuable and useful information about parenting, respond to participants' needs and interests, and are culturally and linguistically relevant. While learning in groups is most effective, staff can also offer one-to-one sessions to deal with sensitive issues or provide additional instruction.

Topics. Parents' own view of their children's abilities, including literacy, is a useful departure point for discussion (Perkins & Strutchens, 1994). Curriculum topics that provide good opportunities for learning and applying a variety of skills include the following (Dwyer, 1995; NCFL, 1994):

- Attitudes about child-rearing, including behavior management

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- Strategies for problem-solving, with particular attention to parent-child concerns.
- Strategies for transferring learning to various situations at home and at work.
- Household management, including integrating employment into parents' schedules.
- Family relationships, including abuse.
- Ways to learn about one's own child.

Activities. All parent-child activities have a literacy component, and parents are encouraged to see routine family interactions as opportunities for literacy experiences. They are also instructed in specific ways to reinforce their children's learning in the early childhood component (Come & Frederick, 1995).

A key activity is parent-child reading. Preferably, books are selected by parents, reflect different cultures, including those of the participants, and provide readers with the opportunity to learn about a variety of topics, as well as learn to read (Perkins & Strutchens, 1994). A Savannah, GA, program, for example, uses guest speakers, including former program participants, to provide parents with tips on how to read and discuss books with their children, despite their own perceived shortcomings. It also provides families with books for home use and a calendar on which to chart family progress (Come & Fredericks, 1995). Writing, designing, and producing publications in class promotes development of many skills and also allows families to share information. Subjects can include story books, recipe collections, autobiographies and family histories, and the program's "news of the week" (Wrigley, 1994).

Oral skills are promoted through role playing and skits. Different ways to solve a problem is a useful theme. For example, in New York City, participants in the El Barrio Popular Education Program produced a *foto-novela* illustrating the families' concerns about local schools (Wrigley, 1994).

To give families the opportunity to interact with people from a range of backgrounds, and to learn from experts in a specific area, people working in the community can be invited to make a presentation and lead a discussion. Guests can include public health and social services professionals and police officers, especially those involved in gang prevention (Wrigley, 1994).

Visits to cultural centers give families the opportunity to learn about a particular topic, and to consider their own community's contribution to culture, the contributions of other communities, and the general societal value of culture. Looking at sculptures, for example, promotes art appreciation and provides an opportunity to learn about human anatomy. To promote science learning, families walk around the neighborhood to look for nature items and to see how everyday life is based on scientific principles. Using public transportation helps parents, immigrants especially, become familiar with their city and aware of how to travel safely with their children (Parker & Wuelser, 1995; Wrigley, 1994).

Staffing

In addition to a wide overall knowledge of family literacy and early childhood education, teacher characteristics shown to be effective with disadvantaged families include the ability to convey respect for the life experiences of participants, and to communicate in a way that builds parents' self-confidence and self-respect. In addition, "flexibility in trying alternative learner-centered teaching strategies" and in responding to changing circumstances is a an important staff quality (Thomas, 1995, p. 24).

Ancillary Services

Through relationships with social service agencies, programs help meet a range of necessary, but non-educational, needs to induce program participation, ensure access to health services, and reduce family stress. Many also provide transportation, day care, and meals. To promote learning outside the program, staff helps familiarize families with community literacy resources, such as the public library and museums (Dwyer, 1995).

Feedback and Evaluation

An ongoing evaluation that includes participants' perspectives helps ensure a program's efficacy. Learning goals established collaboratively at the outset can guide the evaluation. Parents' perceptions can be obtained through individual interviews, recorded group sessions, and personal journals. Routine staff evaluations can include regular recording of observations during family literacy sessions (Thomas, 1995). A review of participants' portfolios can offer tangible evidence of learning and improvement (Perkins & Strutchens, 1994). Parent and child test scores, a requirement for Even Start-funded programs, can provide a basis for more formal periodic evaluations in all programs (Tao et al., 1998).

—Wendy Schwartz, Teachers College, Columbia University

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ERIC Clearinghouse on Urban Education, Institute for Urban and Minority Education, Box 40, Teachers College, Columbia University, New York, NY 10027, (800) 601-4868. Erwin Flaxman, Director. Wendy Schwartz, Managing Editor.

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University of Illinois • 51 Gerty Drive • Champaign, IL 61820-7469
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Language and Literacy Environments in Preschools

Catherine E. Snow, M. Susan Burns, and Peg Griffin

Children live in homes that support literacy development to differing degrees. Because of this variation in the home environment, many children need high-quality preschool and school environments and excellent primary instruction to be sure of reading success. This Digest discusses the research on preschool literacy environments and their contributions to reading skills development. This research has important implications for those who are making instructional, programmatic, or policy decisions that may affect children's preschool literacy environments.

Program Quality of Preschools

The overall quality of a child care program has been found to be an important determinant of positive effects on language and preliteracy skills (see Barnett et al., 1988, for a review). The evaluation of public preschool programs in North Carolina found evidence that participation in the programs reduced the degree of delay of high-risk children in communicative skills (Bryant et al., 1993). Assessments of several early childhood programs (Roberts et al., 1989; Wasik et al., 1990; Infant Health and Development Program, 1990; Brooks-Gunn et al., 1994; St. Pierre & Lopez, 1994; St. Pierre et al., 1993) have documented the enhanced value of high-quality classroom-based experiences for children in poverty, with bigger effects from more intensive and higher quality programs, as well as evidence for positive effects on language development in particular.

Studies of Language Environments in Preschools

Most studies of preschools using broad-gauge tools that include language and literacy as only one small portion of the assessment have found that it is precisely on measures of the language environment that many preschool programs serving poor children have scored in the inadequate range. A study of children in North Carolina public preschools found that they had lower ratings on language and reasoning measures than on other aspects of the Early Childhood Environmental Rating Scale (Bryant et al., 1993). Scores were particularly low for items involving dramatic play (an important context for rich language use), cultural awareness, and professional opportunities, suggesting that the children's language development needs were not being served optimally. A study of 32 Head Start classrooms similarly found the lowest scores for language and reasoning on the same test (Bryant et al., 1993).

Other studies have also focused on the language environments in preschool classrooms (Phillips et al., 1987; Dickinson & Smith, 1994; Dickinson et al., 1993). These studies suggest that the quality of adult–child discourse is important, as is the amount of such interaction. One study found that the amount of cognitively challenging talk that children experience is correlated with the amount of time they talk with adults (Smith & Dickinson, 1994). Given the importance of adult–child interaction, it is disturbing that some children may rarely interact with a preschool teacher, receiving little or no individualized attention (Kontos & Wilcox-Herzog, 1997). Modest enhancements of the quality of classroom experiences show positive effects on children's language development and preliteracy skills (Whitehurst et al., 1994).

Finally, Neuman (1996) studied the literacy environment in child care programs. Day care providers were targeted because of their role in providing care for infants, toddlers, and preschoolers; in many situations, the language and literacy needs of these children are not the caretakers' primary concern. Traditional caretaking tasks, such as keeping children safe, fed, and clean, are often the main focus. Yet many of these children are in special need of early language stimulation and literacy learning.

Intervention Results

In one program, caretakers were given access to books and training on techniques for (1) book selection for children of different ages, (2) reading aloud, and (3) extending the impact of books. The program was evaluated with a random sample of 400 3- and 4-year-olds who received the intervention, as well as 100 children in a comparison group. Results showed that literacy interaction increased in the intervention classrooms; literacy interactions averaged five per hour before the intervention and doubled after the intervention. Before the intervention, classrooms had few book centers for children; after the intervention, 93% of the classrooms had such centers. Children with caretakers who received the intervention performed significantly better on concepts of print (Clay, 1979), narrative competence (Purcell-Gates & Dahl, 1991), concepts of writing (Purcell-Gates, 1996), and letter names (Clay, 1979) than did children in the comparison group. At follow-up in kindergarten, the children were examined on concepts of print (Clay, 1979), receptive vocabulary (Dunn & Dunn, 1981), concepts of writing (Purcell-Gates, 1996), letter names (Clay, 1979), and two phonemic awareness measures based on children's rhyming and alliteration capacity (Maclean et al., 1987). On these measures, children in the reading-aloud group performed significantly better on letter names, phonemic awareness, and concepts of writing.

Beyond Language and Literacy

Given the pervasive evidence of differences in language and emergent literacy skills associated with class, culture, and linguistic background, it is heartening that preschool has

been shown to benefit children's performance in school (Haskins, 1989). The number of months that children spend in preschool has been found to be related to achievement test scores in second grade, behavior problems in third grade, and school retention in kindergarten through third grade (Pianta & McCoy, 1997). A recent comprehensive review of early childhood programs for children from low-income families concludes that preschool programs can produce large effects on IQ during the early childhood years and sizable persistent effects on achievement, grade retention, special education, high school graduation, and socialization (Barnett, 1995).

Implications for Preschool Educators

Prevention of later reading difficulties involves ensuring that families and group care settings for young children offer experiences and support that make language and literacy accomplishments possible. Parents and caregivers can:

- spend time in one-on-one conversation with young children;
- read books with children;
- provide writing materials;
- support dramatic play that incorporates literacy activities;
- demonstrate the uses of literacy; and
- maintain a joyful, playful atmosphere around literacy activities.

For most children, these simple primary prevention efforts will ensure that they are ready for formal reading instruction.

Adapted from Snow, Catherine E., Burns, M. Susan, & Griffin, Peg (Eds.). (1998). Preventing reading difficulties in young children. *Washington, DC: National Research Council. (Available: http://www.nap.edu/readingroom/books/prdyc/ch5.html)*

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Indiana University
2805 E. 10th St., Suite 150 D126
Bloomington, IN 47408-2698
(812) 855-5847; (800) 759-4723

Vocabulary Instruction and Reading Comprehension

By Carl B. Smith

Word knowledge has particular importance in literate societies. It contributes significantly to achievement in the subjects of the school curriculum, as well as in formal and informal speaking and writing. Most people feel that there is a common sense relationship between vocabulary and comprehension--messages are composed of ideas, and ideas are expressed in words. Most theorists and researchers in education have assumed that vocabulary knowledge and reading comprehension are closely related, and numerous studies have shown the strong correlation between the two (Baker, 1995; Nagy, 1988; Nelson-Herber, 1986).

Although the opportunities for vocabulary instruction are especially pronounced in language arts and reading, vocabulary instruction properly belongs in all subjects of the curriculum in which learners meet both new ideas and the words by which they are represented in the language. This Digest will consider several viewpoints on teaching vocabulary, offer some strategies for implementing vocabulary teaching, and suggest some sources for further reading.

Teacher's Dilemma

From a teacher's point of view the issue in the classroom usually revolves around how to improve the student's reading comprehension, whether it be in content area reading or in the language arts. Should the teacher teach vocabulary directly or incidentally? That is, should words be targeted for the learners or should they develop naturally through reading and the learner's desire to clarify concepts? Evidence falls in both directions. Certainly vocabulary knowledge can be acquired through reading and discussions about certain contexts (Nagy et al, 1985). But it appears that direct instruction is more effective than incidental learning for the acquisition of a particular vocabulary, and also more efficient (McKeown and Beck, 1988). However, in one study of fourth graders that examined whether a context or a definitional approach was better for vocabulary development, Szymborski (1995) found that there was no significant difference in raw scores between the samples using the two different approaches.

Carl B. Smith is the Director of ERIC/REC and Professor of Language Education at Indiana University.

Instructional Techniques

It is generally accepted that students learn vocabulary more effectively when they are directly involved in constructing meaning rather than in memorizing definitions or synonyms. Thus, techniques such as webbing that involve students' own perspectives in creating interactions that gradually clarify targeted vocabulary may be a way to combine direct teaching and incidental learning in one exercise. Teachers can use students' personal experiences to develop vocabulary in the classroom. Through informal activities such as semantic association students brainstorm a list of words associated with a familiar word, pooling their knowledge of pertinent vocabulary as they discuss the less familiar words on the list. Semantic mapping goes a step further, grouping the words on the list into categories and arranging them on the visual "map" so that relationships among the words become clearer. In semantic feature analysis, words are grouped according to certain features, usually with the aid of a chart that graphically depicts similarities and differences among features of different words. Finally, analogies are a useful way of encouraging thoughtful discussion about relationships among meanings of words.

Content Area Reading

In content area reading, the development of vocabulary as a study of relationships seems particularly pertinent. Recognition of isolated information in an article on mechanization, for instance, may represent little understanding of the changes that are occurring as industry moves from human labor to robotics. Barton and Calfee (1989) suggest using a vocabulary matrix to establish the dimensions of a subject. The power of any vocabulary matrix lies in its image of connected ideas, in its process of discovering context for a new word, and in its visual reminder of gaps in our understanding.

Vocabulary development in any subject can proceed by asking students to reveal any vocabulary framework that they already have. Those known words may help them associate meaning

with new vocabulary. In that way, definitions and the particular meaning within a given sentence have a context and a set of relations to build on.

One group technique that enables students to list synonyms and/or definitional phrases that they already associate with the topic involves the construction of a simple T-bar chart. Suppose, for example, an article on protecting the environment includes the word "menace." The teacher lists words that students associate with threats to the environment. Associated terms and synonyms are them listed in the T-bar chart.

With this kind of visual representation of a word and related terms, a matrix is begun for most students and the definition is enriched. The semantic context may now be rich enough for the reader to use this word in its context (Moore et al, 1989). To build background and to understand vocabulary in content area reading, students need the benefit of seeing multiple relationships.

Teaching Vocabulary

Christen and Murphy (1991) contend that research clearly emphasizes that for learning to occur, new information must be integrated with what the learner already knows. They feel that teaching vocabulary as a prereading step is an instructional intervention that should be considered when readers lack the prior or background knowledge to read in a content area. Kueker (1990) also argues that prereading activities help enormously in reading comprehension.

Another technique to help students see a word in a broader context is to have them answer the following questions: (1) what is it?, (2) what is it like?, (3) what are some examples? Schwartz and Raphael (1985) believe that this list of 3 questions helps students see relationships between familiar and less familiar terms and also brings the meaning of an unknown term into focus by requiring analogies and examples.

Language Arts

In facilitating vocabulary instruction in the language arts classroom, Hodapp and Hodapp (1996) suggest using vocabulary packs and cued spelling as intervention strategies, while Cooter (1991) discusses using storytelling. Wilkinson (1994) opts for enlivening vocabulary lessons by combining them with two effective teaching strategies--cooperative learning and story development by students. Ruddiman (1993) also offers activities for vocabulary development. Bear et al (1996) presents a practical way for teachers to study words with students, providing more than 300 word study activities which are set up to follow literacy development from emergent to more mature, specialized stages. For an overview of current information on vocabulary instruction and acquisition, see Baker (1995).

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Priority 2: Mathematics

All students will master challenging mathematics, including the foundations of algebra and geometry, by the end of 8th grade.

BEST COPY AVAILABLE

Helping Students With Homework In Science and Math

Linda A. Milbourne & David L. Haury

May 1999

ERIC Clearinghouse for Science, Mathematics, and Environmental Education DIGEST

Teachers assign homework for a variety of reasons: to help students review, apply, and integrate what has been learned in class; to help them prepare for the next class session; to extend student exploration of topics more fully than class time permits; or to help students gain skills in self-directed learning and using resources such as libraries and reference materials. Homework can also help students:

- Develop mastery by practicing what they have learned.
- Acquire effective habits of self-discipline and time management.
- Learn to work independently.
- Gain a sense of personal responsibility for learning.
- Develop research skills such as locating, organizing, and condensing information.

Homework can also bring parents and teachers closer together; parents who supervise homework and assist their children with assignments learn more about their children's education and about the school [Adapted from *Helping your child with homework*, (Paulu, 1995), available on-line from the U.S. Department of Education at *http://www.ed.gov/pubs/parents/Homework/index.html*].

Homework is intended to be a positive experience that encourages children to learn; assignments should not be viewed as punishment. According to Paulu (1995), children who spend more time on homework, on average, do better academically than children who don't, and the academic benefits of homework increase in the upper grades. Research on homework during the last decade began to focus on the relationship between homework and student achievement, and has greatly strengthened the case for assigning homework. Although there are mixed findings about whether homework actually increases students' academic achievement, many teachers and parents agree that homework develops students' initiative and responsibility, and fulfills the expectations of students, parents, and the public. "Studies generally have found homework assignments to be most helpful if they are carefully planned by the teachers and have direct meaning to students" (Paulu, 1995).

How much homework is reasonable?

The National Parent-Teacher Association and the National Education Association recommend the following amounts of homework :

- Kindergarten to 3rd grade: Up to 20 minutes each day.
- 4th - 6th grade: 20 to 40 minutes each day.
- 7th - 12th grade: Generally up to 2 hours, but recommendations vary according to the type and number of subjects a student is taking.

College-bound students will receive increasingly lengthy and complex assignments. Also, some students may require more time while others require less time to complete their homework . (See "The Basics" in *Helping your child with homework* , and a brochure, *How important is homework*, available on-line at *http://www.accesseric.org:81/resources/parent/homewrk.html*.)

It will take some students longer than others to complete assignments. Research studies have shown that students with low test scores who spend substantial time on homework get grades as good as higher ability students who spend less time. However, teachers and parents need to be aware that if assignments generally take too long, this may be a may sign that a student needs more instruction to complete them successfully. While some homework is a good thing, too much can frustrate students and cause stress. It's also important that kids have time to exercise, play, socialize, and pursue their own personal interests.

> "Students who have good attention and concentration skills often finish homework quickly. They usually listen so well in class that they have learned much of what they need to know already. It is said that students who listen very carefully to what teachers are saying, can cut their study time by 45%." (From *Homework & studying at home*, available online at *http://henson.austin.apple.com/edres/parents/pfet/hwrkmenu.shtml*).

How can I help my child with homework?

First, avoid doing the homework yourself! Doing homework for a child sends a message that he or she is incapable of doing the work and that perfection is the main objective. It also denies your child the opportunity to develop skills and gain understanding from the experience. Remember, doing homework should help children plan, manage, and complete work on their own. Parents should be familiar with the school's homework policy and help their children get the most out of homework by:

- Exhibiting a positive attitude in word and deed that homework is important and education comes first. For many, resistance to doing homework is a source of conflict in the home. For help in reducing the conflict, see "Hassle free homework: A six week plan for parents and children to take the pain out of homework" by Cecil Clark.
- Encouraging children to take notes about homework assignments when they are given.
- Discussing homework assignments with children to become familiar with what they are studying. Talk

together about the topic of an essay before the child begins writing, and do short quizzes on the day before a test.

- Limiting after-school activities to allow time for homework and family activities.
- Limiting telephone use by agreeing ahead of time what will be allowed.
- Planning homework schedules and routines that allow some free time when assignments are completed. Make sure your child is well rested, not hungry, and has had time to wind down after school (Herold, 1999). Also, avoid scheduling homework right before bedtime when children will be too tired or feel pressured to finish by bedtime. For long-term projects, mark plans and deadlines on a calendar.
- Monitoring television and radio use. If there is a favorite show that comes on during scheduled study time, arrange to record the show if possible.
- Doing some assignments or questions together with a child when he or she asks for help. Sometimes children need help in learning how to break large assignments down into manageable pieces.
- Staying nearby—reading, writing, studying or catching up on paperwork. Be available to help if asked, but avoid imposing your help or way of doing something.
- Checking completed assignments, and reviewing homework that has been marked and returned. Avoid negative comments, but contact the teacher if your child consistently gets 25% or more wrong on homework problems and assignments, or if he or she never seems to have any homework (Shore, 1999).
- Providing children with convenient, quiet, and comfortable work areas that are well-lit , free of family traffic, and have the materials needed to complete assignments. Some people do study better with music or background noise, so try to accommodate your child's preferred learning style.
- Encouraging the use of reference materials (such as dictionaries and encyclopedias), and providing a computer and calculator if possible. If a computer is not available in the home, plan regular visits to a public library or community learning center where access is available.

The computer has become a common and essential tool in learning many school subjects, particularly mathematics and science. You and your children can use a computer to:

- Complete reports and assignments using wordprocessing programs and other software.
- Find information using reference materials on CD-ROMS; many are typically available from school and public libraries.
- Use software packages that teach science concepts and skills in interesting and enjoyable ways.
- Access the abundant science and homework resources and assistance freely available on the Internet. See the Homework Companion at *http://www.ericse.org/homework.html* for a directory to many resources.

For more information about helping your child with homework, see "How Parents Can Help With Homework" by Judith Lips and "Homework Helpers For Parents" by Kenneth Shore, both available online at *http://family.go.com/Features/family_1999_02/nwfm/nwfm29homework/*. Parents should also provide feedback to the teacher, a counselor, or a school administrator if there are ongoing problems with time requirements for homework, difficulty in understanding or completing assignments, a consistently negative attitude toward homework assignments, or lack of progress in learning. Homework is an essential component of the total educational program for students and should enhance the intellectual development of a child while creating greater interest and success in learning and studying.

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Online Resources

For more online resources regarding homework in science and mathematics, please see The CSMEE Homework Companion at *http://www.ericse.org/homework.html*.

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The Educational Resources Information Center is a nationwide information system initiated in 1966 by the U.S. Department of Education. ERIC has developed the largest and most frequently used education-related database in the world. For information, call 1-800-538-3742.

Helping Your Child Learn Math

Linda A. Milbourne & David L. Haury

December 1998

ERIC Clearinghouse for Science, Mathematics, and Environmental Education DIGEST

Do not worry about your difficulties in mathematics. I can assure you that mine are still greater. -Albert Einstein

Everyone struggles with math, whether learning the multiplication tables or trying to figure out how to stretch the monthly income to pay bills. Some find mathematics easier than others, just as some find spelling easier. Some use mathematics extensively in their work, just as some make more use of hammers. Everyone, though, uses mathematics daily, and limited math proficiency leads to limited success with the daily challenges of our society. As Sutton has said, "one of the most significant things parents can do is to help their children understand the normalcy and the value of struggle in mathematics" (1998, p. 9).

What are Children Learning in Mathematics?

Each school has its own mathematics program and expectations, but most are aligned with state curriculum frameworks or guidelines that are, in turn, strongly influenced by national standards. National standards were developed for math by the National Council of Teachers of Mathematics (NCTM, see *http://www.enc.org/reform/journals/ENC2280/nf_280dtoc1.htm*), and revisions are underway (*http://www.nctm.org/standards2000*). The NCTM standards reflect five general goals: (1) that all students learn to value math, (2) that students become confident in their own abilities to do math, (3) that they learn to solve mathematical problems, (4) that they learn to communicate mathematically, and (5) that they learn to reason mathematically. Students must learn basic math skills and concepts as in the past, but schools give increased attention to connections and applications of math to the workplace and the demands of daily life. "Today, children learn that mathematics is a tool that can help them understand the world around them" (Parent Handbook: Math and Your Child, *http://www.eduplace.com/math/res/parentbk/index.html*).

How Can Parents Help?

Research shows that the level of parent involvement in a child's education is strongly related to the degree of success in school (Henderson & Berla, 1994). "Families play a vital role in educating...children. What families do is more important to student success than whether thay are rich or poor, whether parents have finished high school or not, or whether children are in elementary, junior high, or high school" (Robinson, in Paulu, 1995). For general tips on ways to strengthen the bonds with children, see the National Parent Teacher Association (PTA) website (select "Get Involved" at *http://www.pta.org/commonsense/2_parents/2_parents.html*).

The importance of family involvement in education led the U.S. Congress to add the following goal to the National Education Goals (*http://www.ed.gov/pubs/parents/Homework/pt11.html*): "Every school will promote partnerships that will increase parental involvement and participation in promoting the social, emotional, and academic growth of children." To that end, the U.S. Department of Education has established the Partnership for Family Involvement in Education program (see *http://pfie.ed.gov*) and provides financial resources to communities for developing programs that serve families. For parents actively working with schools, the PTA has produced "National Standards for Parent/Family Involvement Programs" (Online at *http://pta.org/programs/invstand.htm*).

Set the Example. One of the most important ways parents can help a child in math is by exhibiting attitudes and values supportive of learning. "All children have two wonderful resources for learning—imagination and curiosity. As a parent, you can awaken your children to the joy of learning by encouraging their imagination and curiosity" (Ravitch, in Kanter, 1994). Sutton (1998) offers the following suggestions:

- *Accept the Struggle* as a normal part of doing math, just as you accept the struggle to become better in sports. Help uncover difficulties, and offer suggestions for overcoming them.
- *Encourage Mastery.* Just as it is important to repeat fundamentals again and again in sports until performed automatically, it is important to see practice in mathematics as developing mastery, not a chore or form of punishment.
- *Look Beyond the Grade.* Math grades are often calculated on percentages of correct answers on tests and assignments accumulated during a grading period, so they may not reflect understanding that has developed over the course of a grading period. Help focus on understanding and being able to identify specific difficulties.
- *Discover the Textbook.* "Reading" math can be difficult, and math textbooks are often used as collections of assignments and homework problems. Help your child learn how to "read" the math textbook, see the underlying structure, and learn from the examples provided.

Help Children See the Math Around Them. Help children recognize the use of math around them in daily life, and engage them in games and activities that foster familianty with numbers and mathematical thinking. A guide, *Helping Your Child Learn Math*, is available online at *http://www.ed.gov/pubs/parents/Math/index.html*. The guide suggests many activities that parents can do with children (grades K-8) at home, at the grocery store, or in transit. The activities generally make use of playing cards, coins, containers, or other simple materials around the house. Here are some other ideas that the guide offers:

- Wrong answers can help!
  - Be patient; incorrect answers tell you that you need to look further, ask questions, and figure out what you do not understand.
  - Sometimes a wrong answer is the result of misunderstanding the question.
  - Ask your child to explain how they solved a problem; responses may clarify whether help is needed with a procedure, the "facts" are wrong, or a crucial concept is not understood.
  - You may learn something that the teacher would find helpful. A short note or telephone call will alert the teacher to possible ways of helping your child.
  - Help your children become risk takers. Help them examine wrong answers, and assure them that right answers come with understanding.
- Problems can be solved in different ways. Though a problem may have only one correct solution, there are often many ways to get the right answer.
- Doing math in your head is important. Increased use of calculators and computers makes it increasingly important that people be able to determine whether an answer is reasonable.

More activities and games for strengthening specific skills and concepts are provided online in a *Guide to Helping Your Child Understand Mathematics*, provided by Houghton Mifflin's Education Place (see *http://www.eduplace.com/parents/index.html*); select "Parent's Place," then "Parent's Resources." Suggestions are also provided for things to do in the grocery store, in a restaurant, while shopping, and on the refrigerator door.

Provide a Place and Resources to Study. Provide children with convenient, quiet, and comfortable work areas, along with whatever resources are needed to study math and complete assignments. Encourage the use of reference materials (such as dictionaries and encyclopedias), and provide a computer and calculator if possible. If a computer is not available in the home, plan regular visits to a public library or community learning center where access is available.

The computer has become a common and essential tool in learning many school subjects, particularly mathematics and science. You and your children can use the computer to:

- Produce reports and assignments using wordprocessing programs, spreadsheets, and other software.
- Find information from reference materials on CD-ROMS. Many are typically available from school and public libraries.
- Use commercial software packages that teach math skills in interesting and enjoyable ways.
- Access the abundant math and homework resources and assistance freely available on the Internet.

For help in selecting mathematics software, seek recommendations from one or more of the many websites that provide software reviews. The Educational Software Review page at the SuperKids website (see *http://www.superkids.com*) provides monthly features, annual software awards, an index of all software reviewed, and pertinent articles. For instance, "Mathville VIP" by Courseware Solutions Inc. is a highly rated program that allows middle school and high school students to practice everyday math skills in real-life activities. For younger children, "Reader Rabbit's Math 6-9" by The Learning Company is highly rated for teaching basic skills through arcade-like activities. Software reviews ae also provided by the North Carolina Department of Public Instruction (see *http://www.evalutech.sreb.org/archives/*). A rating system is not provided, but software programs are thoroughly described, and strengths, weaknesses, and uses are identified.

If you have access to the Internet, there are many helpful websites that provide guidance, resources, or information not readily available in most homes. Both the access to Internet resources and the practice in finding useful resources are valuable. For help in using the Internet, refer either to *The Parent's Guide to the Information Superhighway* (*http://www.pta.org/programs/guide.htm*) or *Parent's Guide to the Internet* (*http://www.ed.gov/pubs/parents/internet/*). Following are some representative online resources for math:

- Dave's Math Tables
  http://www.sisweb.com/math/tables.htm#top
  Site provides math tables and includes a search area to find a specific formula.
- The Math Forum
  http://forum.swarthmore.edu/
  An extensive collection of resources for students, parents, and teachers. Students will be particularly interested in the "Student Center" and "Ask Dr. Math," where questions can be submitted. A related website, MathWorld Interactive, (*http://forum.swarthmore.edu/mathworld/*) enables students to work on open-ended word problems online and exchange information with other students worldwide.
- DO MATH...and you can do anything!
  http://www.domath.org/
  Here you will find age-specific mathematical activities that children can do with their families or on their own.
- The CRC Concise Encyclopedia of Mathematics
  http://www.astro.virginia.edu/~eww6n/math/math.html
  Provides access to an enlarged version of a comprehensive reference book by the same title, including more than 120 additional printed pages of material.
- S.O.S. MATHematics
  http://www.math.utep.edu/sosmath/
  Provides resource materials to help students do homework, prepare for tests, or get ready for class. Learning units are presented as worksheets and require active participation.
- Math Flashcards
  http://www.edu4kids.com/
  This site provides online flash cards with a variety of options and mathematical operations.
- Math League Help Topics
  http://www.mathleague.com/help/help.htm
  This is a help resource for grades 4-8 that provides guidance for key topics in basic math.

Help With Homework. Teachers assign homework for a variety of reasons: to help students review what has been learned; to help them prepare for the next class session; to extend student exploration of topics more fully than class time permits; or to help students gain skill in self-directed learning and using resources such as libraries and reference materials. Parents can help children get the most out of homework by:

- Encouraging them to to take notes about homework assignments when they are given.
- Limiting after-school activities to allow time for homework and family activities.
- Planning a homework schedule with each child that allows some free time when assignments are completed.
- Monitoring television viewing and other potential distractions.
- Doing some problems or questions together with a child when he or she asks for help.
- Staying nearby—reading, writing, studying or catching up on paperwork.
- Checking completed assignments, and reviewing homework that has been marked and returned.

For more details about these and other homework tips, see *Helping Your Child With Homework* (Paulu, 1995) and *How Important is Homework?* (Available online at *http://www.accesseric.org:81/resources/parent/homewrk.html*). As Weaver (1998) has said, "the entire family needs to cooperate to help students develop good study habits." Before studying, it is also important for "a child...[to] be rested and relaxed after a school day before concentrating on homework. Help the child avoid rushing to finish homework before a deadline such as dinner or bedtime. Try to schedule study time so it doesn't conflict with a favorite activity or necessary function."

There are many homework guidelines and resources available online for both parents and students. For parents having questions about homework or wanting more guidelines, see the following websites:

- Dear Parents: Math
  (*http://www.dearparents.com/Category/mCategory.shtml*)
- National PTA's Education Resource Libraries
  (*http://www.pta.org/programs/edulibr.htm#home*)
  (Look for *Math matters: Kids are counting on you* and *Helping your student get the most out of homework.*)
- Apple Learning Interchange: Featured Curriculum Resources
  (*http://henson.austin.apple.com/edres/parents/pfet/hwrkmenu.shtml*)
- Parentsoup Online Guide
  (*http://www.parentsoup.com/onlineguide/*)

In addition to the math Internet resources described previously, the following website offer resources for doing homework:

- Homework Central: Math Search Engines
  (*http://www.homeworkcentral.com/sectionshc.htp?sectionid=1980*)
- Star Tribune Online Homework Help
  (*http://www.startribune.com/stonline/html/special/homework/*)
- Schoolwork, Ugh!
  (*http://www.schoolwork.org/*)
- Kids Connect
  (*http://www.ala.org/ICONN/kidsconn.html*)
- The New "Homework"
  (*http://fromnowon.org/feb97/teach.html*)
- B.J. Pinchbeck's Homework Helper: Math
  (*http://tnstate.ogh.net/~pinch13/framemath.htm*)

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More Resources

Contact the Eisenhower National Clearinghouse for Mathematics and Science Education (1-800-621-5785) and ask for a copy of *ENC Focus*, vol. 5, issue 3 that focuses on family involvement in education. Also, search the ERIC database for more resources on mathematics and homework at *http://www.accesseric.org:81/searchdb/searchdb.html*.

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Digest

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Reforming Mathematics Instruction for ESL Literacy Students

Keith Buchanan and Mary Helman , Fairfax County Public Schools

English as a second language (ESL) students who have had limited or interrupted schooling in their first language–whom we refer to as *literacy students*–can be overwhelmed by new experiences in ESL and content courses. They must learn in a linguistically and culturally unfamiliar environment, construct understanding without the background knowledge that their classmates employ to make assumptions, and process new information. All too often, these circumstances lead to frustration for both literacy students and their teachers.

Literacy students must have access to math content from the beginning of their formal education. This calls for modifications in the curricula and in the delivery of instruction. By integrating math and language teaching, innovative courses can provide experiences that bridge gaps in literacy students' math knowledge, expand their communicative competence in English, and ultimately prepare them for success in future math coursework.

Correlating Mathematics with Language Skills Building

In response to the call for the reform of mathematics education in the United States, the National Council of Teachers of Mathematics (NCTM) established a Commission on Standards for School Mathematics in 1986. This led to publication of *Curriculum and Evaluation Standards for School Mathematics* (NCTM, 1989), which included 54 standards among four divisions: Grades K-4, 5-8, 9-12, and evaluation. The NCTM standards established five goals for mathematical literacy: (1) that students learn to value mathematics; (2) that they become confident in their ability to do mathematics; (3) that they become mathematical problem solvers; (4) that they learn to communicate mathematically; (5) and that they learn to reason mathematically (NCTM, 1989). The NCTM position statement on language minority students (1994) further clarifies that, "Cultural background and language must not be a barrier to full participation in mathematics programs preparing students for a full range of careers. All students, regardless of their language or cultural background, must study a core curriculum in mathematics based on the NCTM standards."

The goals articulated in the NCTM standards have special implications for math teachers who are working with literacy students. While these students have had many experiences outside of school, most of these experiences have not prepared them for success in formal classroom settings. Math teachers can make math meaningful for literacy students by designing instructional activities that build upon students' real life experiences. Lessons that provide challenging problem-solving activities at which students can succeed help to build their reasoning and problem-solving skills, as well as their confidence. For students to learn to communicate mathematically, they need opportunities to hear math language and to speak and write mathematically.

NCTM Standards and Effective Instructional Strategies for Literacy Students

In 1991, NCTM produced a companion document to the curriculum standards. *Professional Standards for Teaching Mathematics*, which provides guidelines for teachers to design an environment in which all students will develop mathematical literacy (NCTM, 1991). The guidelines require significant changes in classrooms for literacy students. Five of these changes are described here.

1. *Select mathematics tasks that engage students' interests and intellect.*

Although the math concepts for literacy students may be at a basic level, the interests and intellectual abilities of these students are not. Selecting tasks that can bridge these discrepancies in ability levels is a challenge for math teachers. For example, in a lesson on calculating percentages, younger students might calculate the percentage of tax on a bicycle, while older students may use their pay stubs to calculate percentages of various categories of withholding.

2. *Orchestrate classroom discourse in ways that promote the investigation and growth of mathematical ideas.*

Orchestrating discourse for literacy level ESL students requires the teacher to attend to teaching English in the content area, which includes both the language specific to math and additional English language skills. For example, when teaching that an obtuse angle is greater than 90 degrees, the teacher will not only have to teach the vocabulary word *obtuse* but may also have to teach the use of the *-er* suffix to show comparison in the word *greater*.

3. *Use, and help students use, technology and other tools to pursue mathematical investigations.*

Many literacy students are unfamiliar with the basic tools associated with mathematics such as rulers, protractors, calculators, and computers, and need opportunities to make optimum use of these tools. When working on estimation of lengths, for example, students can use both standard and metric measuring tools to find things that measure approximately one centimeter, one decimeter, one meter, one inch, one foot, or one yard. They can then use these items to estimate the length of other objects in the classroom, check their estimates with the actual tools, and use calculators to find the percentage of error in their estimations.

4. *Seek, and help students seek, connections to previous and developing knowledge.*

To make connections with students' prior experience, teachers must become familiar with the backgrounds of their students. Working in collaboration with other content and ESL teachers will help the math teacher provide connections with the knowledge students are developing in other classes. When students are studying data analysis and graph making, for example, the math teacher can collaborate with science or social studies teachers to build connections with work in those classes.

5. *Guide individual, small-group, and whole-class work.*

Literacy math students benefit from a variety of instructional settings in the classroom. The teacher must guide students through individual, small-group, and whole-class activities. The introduction of a new set of vocabulary or manipulatives to the whole class, for example, can build listening and responding skills. Small-group work allows students to use language to talk about the math tasks at hand while they solve nonroutine problems. Individual work settings ensure that all students process lessons at their own rate of learning.

Designing Appropriate Curricula

In order to revise math curricula for literacy students, schools must address such as these:

- Who are our literacy students, and why are they unsuccessful in our present math courses?
- What is the most efficient way for students with limited time in school to learn what their classmates already know?
- How should math teachers incorporate language into daily lessons?
- Why is it appropriate to separate literacy students from other math students for a time?
- How should literacy students' understanding of math be assessed?

Responses to these questions should be used to guide curriculum development by educators from both math and ESL/bilingual backgrounds who are knowledgeable about both the school district's math objectives and the needs of second language learners from various age groups. Math instructors judge the relative importance of existing instructional objectives and, along with ESL/bilingual personnel, develop specific teaching strategies.

Clustering Objectives

Literacy math classes aim to teach a number of years of conventional math classes in a condensed period of time. In many cases, it is appropriate to cluster similar learning objectives across grade level boundaries. These clusters of objectives make the most efficient use of students' time in the literacy math class and also recognize that, often, older students do not require as much time to master objectives normally taught in earlier grades. In addition to saving class time, the clustering of objectives reduces the artificiality of structuring lessons where, for example, students only solve problems that involve numbers less than 100 and do not require regrouping.

Clustering objectives also offers opportunities to integrate a variety of math strands into one lesson. In a geometry unit, for example, a group of students may estimate the cost of carpeting the classroom. The objectives for the lesson would read, "Identify the space inside a plane shape as its area. Find the area of simple polygons." In order to carry out the activity, students also demonstrate their understanding of these objectives: measure lengths of objects using customary units; multiply whole numbers, regrouping as necessary; multiply whole numbers by decimal numbers. These math skills are being used by students in a real life setting to solve a problem while mastering another objective. The teacher can assess mastery of the previously taught content and reteach where necessary while continuing to move through the curriculum.

Three Important Variables

The essential math objectives identified by local school jurisdictions should remain unchanged for literacy math students. In literacy math curricula, however, the objectives are clustered and condensed, modifying the scope and sequence. Next, specialized teaching strategies are developed. All the strategies take into account students' ages, English proficiency, and developmental levels.

Students' Ages. Innovative strategies need to be developed for 17 year-old students with beginning English skills, as well as for fourth graders whose first school experience is in an American setting. Older students benefit particularly from math curricula that take into account their previous life experiences, such as problems involving money or their new school environment. For example, high school students who are studying ordinal numbers could be given practice identifying the periods of their school schedules or explaining the order of their lockers in the hallways.

The fourth grade math literacy student faces a smaller developmental gap with peers, yet may still need a period of specialized instruction. The texts and materials that native English speakers use to learn about ordinal numbers may not interest a student whose previous learning experience has never originated in books. Instruction with concrete experiences, especially incorporating math manipulatives, are effective bridges to formal math class education for literacy math students of all ages.

Students' English Proficiency. In a lesson on ordinal numbers, beginning proficiency students could complete an oral activity combining their understanding of colors with identification of the order of colored objects demonstrated by the teacher on an overhead projector. More advanced students could describe the exercise in writing. In general, less proficient learners depend more on the teacher or other students to model expected work and class behavior. A literacy math classroom will have a different look because it is enriched with extra attention to language. Charts with important vocabulary and language structures fill the walls, along with writing by the teacher and students.

Students' Developmental Levels. Multiple learning strategies are necessary to reach both those students who show understanding of objectives after just a few activities and those who may need continued reinforcement. Literacy math teachers report that they are constantly revising curricular objectives to break them into smaller, simpler pieces, and revising directions to incorporate previously studied vocabulary and activities. Many teachers also modify their overall teaching plan by spiraling out of an objective before it has been mastered by many in their classes, then returning to it after a period of time spent working in another area. For example, after a week spent on a unit on mental math and estimation, the teacher could redirect the class with individualized lessons on operations, incorporating the estimation skills students learned in order to predict their answers. When they return to the estimation unit, the practical value of the lesson will be clear.

Assessing Literacy Math Students' Progress

Just as mathematics content and instruction change to meet the needs of literacy students, teachers need to find different ways to assess literacy students' progress in mathematics. The point from which this growth is measured varies greatly from one literacy student to another but is usually far below the math and English levels of their ESL and native English speaking peers. Reliance on paper-and-pencil tests is often inappropriate because decoding the language of a test may hinder students rather than allow them to demonstrate what they understand. The use of a wide variety of assessment methods will provide a more complete picture of each literacy student's progress, patterns of development, or areas of need. Instead of focusing on what students do not know, it is important to focus on ways students can show what they do know. That information can be used to guide instruction. While grades from tests and quizzes have a legitimate place in assessment, they comprise only one part of the total picture of a student's math knowledge.

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This Digest is drawn from *Reforming Mathematics Instruction for ESL Literacy Students* (1993), a National Clearinghouse for Bilingual Education (NCBE) Program Information Guide. In addition to a more in-depth discussion of the information highlighted here, the guide provides sample lessons for teaching mathematics to ESL literacy students. The guide is available on the NCBE home page (http://www.ncbe.gwu.edu).

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Resources for Teaching and Learning About Probability and Statistics

Hea-Jin Lee -

May 1999

ERIC Clearinghouse for Science, Mathematics, and Environmental Education DIGEST

As increased use of technology and the empirical sciences spreads throughout the global community, the use of data and graphs to communicate information is ever increasing. Daily decision making and discussions of social issues are increasingly influenced by statistics and projected outcomes based on estimated probabilities. Unfortunately, most high school graduates have little or no background in the mathematics associated with calculating probabilities and interpreting statistics. Therefore, in order for our students to be adequately prepared to make informed decisions, schools need to provide greater attention to probability and statistics in mathematics and other courses. Numerous educators (NCTM, 1989; NRC, 1989; Shaughnessy, 1992) have recommend the introduction of concepts related to probability and statistics throughout the school years for all students, not just those students bound for college.

Key Issues

In spite of increased support for teaching probability and statistics in schools, significant problems have been reported.

1. **Absence of probability and statistics lessons or courses in schools.** (Barnett, 1988; Shaughnessy, 1992): To date, very little probability and statistics have been taught in our schools.
2. **Teachers are not prepared to teach probability and statistics.** Historically, teacher preparation programs have not systematically included probability and statistics for prospective mathematics teachers (Shaughnessy, 1992).
3. **Student misconceptions and understanding.** Conditional probability and the notion of independent events are reported as particularly difficult concepts for students to grasp (Falk, 1988).
4. **Student beliefs and attitudes.** Statistics courses are some of the most rigorous and anxiety evoking for college students. Because of this, researchers have investigated techniques that may help to reduce anxiety and change negative attitudes experienced by students taking such courses (Sgoutas-Emch & Johnson, 1998).

Recomendations

Educators have been endeavoring to overcome the identified barriers to improving the teaching and learning of probability and statistics. Following are suggestions from researchers (Falk, 1988; Friel, 1998; Shaughnessy, 1992) who have studied the teaching and learning of concepts and applications of probability and statistics.

Regarding the school curriculum:

- Include a separate probability and statistics course in the main sequence of the mathematics courses.
- Promote increased awareness of the importance of probability and statistics in the curriculum.
- Confront students' and teachers' beliefs and concerns about probability and statistics.

Regarding teachers:

- Teachers must first confront their own misconceptions before they can be prepared to help students overcome misconceptions.
- Teachers must become familiar with students' preexisting conceptions related to probability and statistics before they try to teach the concepts.
- Learning statistics in elementary and middle schools involves building both conceptual and procedural knowledge.
- Teachers must use real world examples to help students understand concepts.
- Hands-on materials must be used in teaching and learning probability and statistics.
- Computer use of simulations enables students to investigate more realistic situations than were previously possible. This strategy is strongly supported by numerous studies.

Following is a listing of Internet and print resources for teaching and learning about probability and statistics.

World Wide Web Resources

Probability Computer Projects with Mathematica

http://www.wku.edu/~neal/probability/prob.html

Provides interesting problems occurring in probability. This page includes "Monte Carlo Approximation of Pi", "The Mystery of the Three Cards", "The Birthday Problem", "The Gambling Boundary Problem", and others.

The Probability WEB

http://www.maths.uq.oz.au/~pkp/probweb/probweb.html

Contains a collection of pages with the following headings: Probability links, Abstracts, Listservers, Newsgroups, People, Jobs, Journals, Software, Books, Conferences, Publishers and Miscellaneous.

Fun with Probability

http://lrs.ed.uiuc.edu/students/mcornell/cerealbox/index.html

Website for a cooperative classroom project for grades K-9. Students from five countries and 19 of the U. S. states participated in this project.

Three Door Puzzle

http://www.intergalact.com/threedoor/threedoor.html

Includes a simulation of the "Three Door Puzzle" of probability. Students can play an interactive game as often as they wish.

Classroom materials for teachers and students

http://forum.swarthmore.edu/probstat/probstat.lessons.html

Provides unit course materials and lesson plans, problems and puzzles, and reference materials.

Software for Probability and Statistics

http://forum.swarthmore.edu/probstat/probstat.software.html

Contains publicly available software and online publishers for probability and statistics.

Internet project : Probability and Statistics

http://forum.swarthmore.edu/probstat/probstat.projects.html

Provides fun and challenging activities for students.

Materials Introducing Activities for Probability and Statistics Lesson

Freda, A. (1998). Roll the dice-an introduction to probability. *Mathematics Teaching in the Middle School, 4(2), pp. 85-89.*

A dice game that introduces students to probability is described. Two students roll the dice simultaneously and find the absolute value of the differences of the numbers that they get. Students then present explanations of what they found from this game.

Ruggles, J. & Slenger, B.S. (1998). The "measure me" doll. *Teaching Children Mathematics, 5(1), pp. 40-44.*

A unit of work that engages Kindergarten and first-grade students in making dolls to represent their birth statistics. The activities develop the children's emergent understanding of mathematics concepts.

Young, P. G. (1998). Probability, matrices, and bugs in trees. Teacher's guide and worksheets. *Mathematics Teacher, 91(5), pp. 402-406.*

Outlines activities that involve modeling the path of an insect between trees and determining the spread of the insect population in the trees. The activities involve the use of basic probability, simple random walks, matrices, and Markov chains.

Scavo, T. R. & Petraroja, B. (1998). Adventures in statistics. *Teaching Children Mathematics, 4, pp. 394-400.*

An activity on data analysis that engages fifth-grade students. The specific elements of the activity include a primary measurement task, data graphing, computation and interpretation of the average area, an analysis of area per student, and presentation of results.

Kader, G. & Perry, M. (1998). Push-penny: what is your expected score?. *Mathematics Teaching in the Middle School, 3, pp. 370-377.*

Outlines an activity that develops students' intuitive feeling for the consequences of randomness. In addition to having the central statistical principle, the law of large numbers, and probability distribution illustrated for students, this activity enables students to develop their data handling skills and their skills in constructing and using tables and graphs.

Greeley, N. & Offerman, T. R. (1998). Words, words, words; ancient communication. *Mathematics Teaching in the Middle School, 3, pp. 358-364.*

Three activities that are based on newspaper articles are outlined: "Frequencies", "Making the Words Fit", and "Check Out That Fog" activities. These activities can be given to students for independent study, and each involves analyzing newspaper articles for their clarity.

Perry, M. & Kader, G. (1998). Counting penguins. *Mathematics Teacher, 91, pp. 110-116.*

An activity based on counting penguins is outlined. It can be used to illustrate the nature of sampling variability, the effect of sample size on the quality of estimation, and the role of the underlying population distribution.

Robinson, P. (1997). Probability, mortality and life assurance. *Mathematics in School, 26, pp. 42-45.*

This activity involves generating expected values or probability values, and present values, as well as applying discount factors and using mortality tables.

Brunner, R. B. (1997). Numbers, please! The telephone directory and probability. *Mathematics Teacher, 90, pp. 704-705.*

This paper illustrates how students can use the telephone directory in collaborative group assignments in their introductory probability and statistics class to help them understand such concepts as Monte Carlo simulations.

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A Student Watcher's Guide to Performance in Mathematics

David L. Haury

May 1999

ERIC Clearinghouse for Science, Mathematics, and Environmental Education DIGEST

After all is said and done with international comparisons of student achievement, national education goals, and national standards for mathematics education, most parents and teachers simply want to know how their children are doing in class. Are they learning? Do they know what they are supposed to know? Are they ready for the mathematics in the next grade or class? Will they pass the state proficiency examinations? These are healthy concerns, and schools are becoming better at assessing student performance in ways that provide more helpful feedback to those wanting to help students perform at their best.

How To Know What You Are Seeing

Interpreting grades and test results seemed easier in the traditional math classrooms of years past. After each unit, students would take a test, usually with rows of math problems or pages of true-or-false and multiple-choice items, and they would earn some number of points for choosing the correct answers. Scoring 90 out of 100 points was very good; scoring 49 out of 100 was not. At the end of the grading period, the points earned on tests, homework, and other assignments would be added, percentages would be calculated, and grades would be assigned. Assessment was somewhat narrow in focus—with an emphasis on knowing certain important facts, or rules and procedures—and deceptively straight-forward: you either mastered the content or you didn't. How you got the right answers—whether by actually knowing, memorizing, guessing, or being lucky—was seldom examined.

Though it is still considered important for students to know fundamental concepts, rules, and procedures, national and state standards place increasing emphasis on active learning and the cognitive skills associated with critical thinking, solving open-ended problems, inquiry, and decision making. Assessing performance in these areas requires alternatives to traditional forms of assessment, and the array of assessment strategies being used in today's classrooms can be confusing. Furthermore, there is also more of an attempt these days to embed assessment into the curriculum in ways that provide students, teachers, and parents with information about how to improve performance.

So, one of the first questions a student watcher must answer is, "What are we trying to see?" For mathematics, state standards and local programs are being strongly influenced by the national standards formulated by the National Council of Teachers of Mathematics (NCTM, 1989), standards that are being revised for the year 2000. Along with increased attention to some content areas, such as estimation and statistics, the math standards emphasize attention to problem solving, critical thinking and reasoning, and expressing mathematical ideas through words, pictures, diagrams, and other forms of communication.

In addition to the assessment activities currently in place, many schools will soon become involved in the Voluntary National Tests (VNT) being developed by the National Academy of Sciences under Public Law 105-78. The VNT will include an 8th grade mathematics test of proficiency. The content strands will include: (a) number sense, properties, and operations; (b) measurement; (c) geometry and spatial sense; (d) data analysis, statistics, and probability; and (e) algebra and functions. Test items will conform to objectives of the National Assessment of Educational Progress (NAEP) framework, and they will assess conceptual understanding, procedural knowledge, problem solving ability, mathematical reasoning, ability to communicate conclusions, and the ability to connect mathematical ideas in one context (algebra, for instance) to ideas in another context (geometry, for instance).

Given the recent changes in both the use of assessment activities to guide learning, and the increased spectrum of knowledge, skills, and habits of mind to be learned in math, classroom assessments are becoming more varied and complex. Student watchers must look for more than the bottom line of how many points were scored on a test; they must look for the links between various forms of classroom assessment and the broad array of learning outcomes sought.

What New Forms of Assessment Can I Expect to See?

Various terms have been used to describe the newer forms of classroom assessment, from alternative assessment and authentic assessment to performance-based assessment. Though there may be subtle nuances in the meanings of the terms, what they all connote is a break with past assessment practices. As schools implement national standards and seek a broader spectrum of learning outcomes, assessment activities are becoming more

Box 1: Forms of Performance Assessment

Unlike traditional tests where students select answers from a set of alternatives, performance assessments require students to perform a task, generate their own responses to questions, or create products that demonstrate both their knowledge and their cognitive or procedural skills. Here are some of the more common forms of performance assessment being used.

Computer Adaptive Testing

Student responses to questions presented by a computer allow testing to be adjusted to a student's ability level.

Concept Mapping

A structured method for presenting ideas and conceptual relationships in pictorial form. (See *http://www.to.utwente.nl/user/ism/lanzing/cm_home.htm*)

Constructed-Response Questions

Students construct their own answers rather than select from a set of possible answers.

Essays

Essays allow a student to demonstrate his or her ability to describe, analyze, explain, or summarize ideas or events.

Experiments or Investigations

Experiments generally require students to plan and conduct research, test hypotheses, use skills of measurement and estimation, and report findings orally or in written form.

Interviews

Students respond to verbal questions, sometimes posed according to a standard protocol.

Observations

A student performs a task or procedure while being observed and rated using a rubric, an agreed-upon set of scoring criteria.

Portfolios

Collections of student work representing a selection of products or works-in-progress. Items that may be included in math portfolios have been listed in an ERIC Digest, *Portfolio Assessment in Mathematics Education* (*http://www.ericse.org/digests/dse98-2.html*). For more information, see *http://www.ed.gov/pubs/OR/ConsumerGuides/classuse.html* or *http://www.ncrel.org/ncrel/sdrs/areas/issues/students/earlycld/*

Continued on next page

ea51143.html. Elementary and middle-school teachers may also find the following resource useful: Jorgensen, M. (1996). *Rethinking Portfolio Assessment: Documenting the Intellectual Work of Learners in Science and Mathematics*. Columbus, OH: ERIC/CSMEE Publications.

Projects (Individual or Group)

Projects usually require a broad range of skills, are often interdisciplinary, and are completed over an extended period of time. Group projects require students to work collaboratively in teams that plan, discuss, prepare, and present their findings or product. Projects are often evaluated using a rubric that informs participants of the expected standards before they begin.

Station Activities

Students move from station to station, individually or in groups, performing a sequence of tasks during a prescribed period of time. Open-ended questions may be used to elicit specific thinking skills or process skills.

Online Sources of Additional Information

- Assessment Alternatives (*http://www.nwrel.org/nwedu/fall_96/article9.html*).
- Authentic Assessment in Mathematics (*http://forum.swarthmore.edu/sum94/project2.html/*).
- Performance assessment in the Third International Mathematics and Science Study (TIMSS) (*http://www.csteep.bc.edu/timss1/PAreport.html*).
- ERIC Digest: *Creating Meaningful Performance Assessments* (*http://ericae.net/db/edo/ED381985.htm*).

diversified. The first sign of change, then, that parents and other student watchers will notice is the increased use of less traditional forms of assessment. A sampling of what might be noticed is presented in Box 1. Parents will see an increased emphasis on "products" that will be scored according to "rubrics" (see Box 2), and there will likely be increasing evidence of conformity to the NCTM content standards.

What Can I Do to Help a Child Do Their Best on Assessments?

Parents and others wanting to interpret feedback from classroom assessments in mathematics may want to begin by looking for evidence of the three qualities identified as being essential for the productive use of assessments: validity, fairness, and credibility (Land, 1997). Valid assessment measures are well aligned with classroom learning objectives, the state curriculum framework, and national standards for mathematics. Parents, then, can help students by becoming familiar with local and national curriculum standards, and helping students focus on topics and skills emphasized by the standards.

Fairness is a serious, but difficult, issue. Math reform efforts in recent years have focused on serving the needs of *all* students. Yet, there are some inherent difficulties in fairly assessing performance when students come to the classroom with very different life histories and experiences: different interests and expectations, different learning styles, different levels of proficiency with the English language, different economic and ethnic identities, and different abilities and disabilities.

Box 2: What is a Rubric?

A *rubric* is a set of scoring criteria that a teacher or other person uses to evaluate responses to a performance assessment task. Since most performance tasks require open-ended responses or individual initiative, a scoring rubric ensures that the responses of different students will be judged on the same merits in a fair and consistent way. As an example, here is a simple rubric for assigning points to a portfolio:

Portfolio Rubric

10 Portfolio well organized and documented. Format is accurate, complete, and easy to follow. Excellent quality; well designed portfolio; indicates superior effort.

8 Portfolio fairly well organized and documented. Format is mostly accurate, complete, and easy to follow. High quality; clear design; indicates excellent effort.

6 Portions of the portfolio are poorly organized or inaccurately documented. Not complete or possibly somewhat difficult to follow. Average quality; adequate design; indicates acceptable effort.

4 Portfolio unorganized, poorly documented, significantly incomplete or inaccurate. Difficult to follow. Poor quality; little or no design; indicates insufficient effort.

2 Portfolio incomplete, incorrect, or inadequate. Work indicates little or no effort.

0 Portfolio not submitted.

Note. This is a simple example to illustrate how scoring rubrics are used. The actual rubrics used in classrooms may be considerably more detailed. For more information about rubrics, see the following website hosted by The Discovery Channel: *http://discoveryschool.com/schrockguide/assess.html*.

Parents and others can help by being alert to difficulties that individual students may be having as a result of these situational factors, and by taking note of reported differences in performance by identifiable groups. Though there will be a broad spectrum of performance levels among members of any particular group, concerns should be raised if members of a particular group are systematically disadvantaged by the nature of a particular assessment activity.

Finally, assessment activities should seem credible to you, whether you are a teacher, parent, or public administrator. It should be expected that the purposes of each assessment can be clearly and openly explained to you, and there should be a public forum for voicing any concerns you may have regarding student assessments, and for providing constructive input as practices are refined. For other questions to consider in examining the quality of classroom assessments, please see "What does research say about assessment?" at *http://www.ncrel.org/ncrel/sdrs/areas/stw_esys/4assess.htm*.

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Content Knowledge: The McREL Standards Database (Online at *http://www.mcrel.org/standards-benchmarks/*) This website provides an extensive compendium of K-12 standards for all subject areas. Included are links to standards-based instructional activities and other standards-related resources.

For more online resources related to performance-based assessment in math, see the Mathematics Assessment Companion at *http://www.ericse.org/mathtest.html*. For more information about testing in general, visit the ERIC Clearinghouse on Assessment and Evaluation, online at *http://ericae.net/*.

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Early Intervention Programs
Opening the Door to Higher Education

Robert H. Fenske, Christine A. Geranios, Jonathan E. Keller, and David E. Moore

The growth of early intervention programs reflects America's commitment to high levels of educational attainment for all citizens. This commitment is embodied in the national ideal of equal educational opportunity without regard to social or economic status. Early intervention programs offer new hope to youth who are disproportionately "at risk" of inadequate educational attainment by providing financial assistance and encouragement to them, their families, and their communities. An important goal of early intervention is to facilitate a seamless transition from elementary to secondary to higher education. To reach this goal, educators at all levels must develop and implement coordinated policies and planning strategies. Early intervention is aided by funds from federal agencies, state agencies, local governments, and philanthropic organizations.

What Is Early Intervention?

The number and diversity of programs providing services and resources to encourage low-income/minority youth to finish high school and enter college have been burgeoning since the early 1980s. The mission statement of the National Early Intervention Scholarship and Partnership program is a unifying concept for early intervention. The federal law encourages provision of financial assistance to low-income students to obtain high school diplomas and to foster the pursuit of higher education. The law also encourages states, local education agencies, community organizations, and private entities to provide a variety of information and support services for elementary, middle, and secondary students at risk of dropping out. These public and private agencies provide services, including mentoring, tutoring, and information, to help low-income and minority students obtain high school diplomas and seek admission to college. Many such programs attempt to eliminate the financial barriers to higher education by guaranteeing needed financial assistance for at-risk students if they graduate from high school and meet other criteria. The underlying assumption is that intervention early in the educational pipeline will help to prevent dropouts and increase the number of students who pursue higher education.

"Academic outreach" programs that originate in schools, colleges, and universities are a subset of the broader concept of early intervention. Academic outreach programs are differentiated from early intervention programs in that academic outreach programs are operated by academic institutions (although the source of funds and sponsor of the programs might be outside the institution). Although the distinctions between academic outreach and early intervention programs are imprecise, this distinction helps to identify the types of institutionally operated programs that can be directly affected by institutional faculty and administrators.

Academic outreach programs are similar in purpose to early intervention programs but are not always articulated or coordinated with them. The general purpose of most academic outreach programs is to encourage at-risk students to plan for college, with no focus on specific academic disciplines. Some academic outreach programs, however, focus on preparation and recruitment of promising at-risk students for selected academic disciplines. Academic outreach includes generally enhancing educational opportunity for underserved students within an institution's service area as well as increasing the number of at-risk students enrolled in specific academic disciplines. Thus, these programs are mutually beneficial to both underserved students and institutions of higher education.

A third type of approach to early intervention is the rapidly growing school-college collaboration movement, which involves systemic changes triggered by the reforms beginning in the early 1980s that attempt to close the traditional gap between K-12 and higher education. A new perspective, K-16, began to emerge in the 1980s in discussions of educational accountability. Early intervention programs that are built upon the collaborative efforts of K-12 and higher education institutions have gained momentum toward K-16 alliances. One of the most promising examples of such collaboration is the concept of "middle

college," which melds the last two years of high school with the two years offered in public community colleges. Such alliances enhance the recruitment of minority students and increase the readiness of entering freshmen.

What Types of Early Intervention Programs Have Been Established?

Basically, early intervention programs take six forms: programs established by philanthropic agencies, federally supported programs, state-sponsored programs with matching federal support, entirely state-supported programs, systemic changes involving school-college collaboration, and college- or university-sponsored programs. In certain cases, programs began with private seed money from philanthropic organizations and later evolved into publicly sponsored programs. The many early intervention/academic outreach programs are varied and uncoordinated, and there is no national clearinghouse or database that tracks the growth of local, state, or federal programs.

What Are the Implications of the Growth of Early Intervention Programs for College and University Administrators?

Early intervention programs provide colleges and universities with a powerful tool to recruit disadvantaged students who need a broad base of support to enroll in and then graduate from college. By forming strong coalitions with schools and community leaders to collaborate in the development of innovative services and methods of delivery, higher education administrators can contribute to and capitalize on the wealth of offerings. Specifically, they can leverage institutional early intervention efforts by surveying the federal, state, regional, and local programs that can directly affect their institution, and by developing strategies and structures to coordinate institutional outreach programs with the multitude of early intervention programs that originate in both the public and private sectors. These developments can help overcome duplicative efforts and gaps in service caused by the current lack of coordination between institutions and programs.

Faculty members and administrators of colleges and universities recognize the importance of support from the public, from elected officials, and from philanthropic organizations, made evident in the recent trend toward the development of state "report cards" for higher education systems. One of the most common components of report cards is the assessment of access to public higher education, especially for underrepresented students. Institutions must demonstrate increased access to their institutions and success in the retention of diverse students. Colleges and universities must marshal and refine their resources to achieve these outcomes. Many institutions rely on remedial education to increase enrollments of students from underserved populations, but in many states, governors, legislators, and governing boards have criticized the need for postsecondary remedial education. Perhaps early intervention and academic outreach programs will enhance students' readiness and diminish the need for remedial education.

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Early Intervention Programs: Opening the Door to Higher Education by Robert H. Fenske, Christine A. Geranios, Jonathan E. Kellerm and David E. Moore

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This report was prepared by the ERIC Clearinghouse on Higher Education in cooperation with the Association for the Study of Higher Education and published by the Graduate School of Education and Human Development at the George Washington University. Each report is a definitive review of the literature and institutional practice on a single critical issue. Many administrators subscribe to the series and circulate reports to staff and faculty committees with responsibility in a report's topic area.

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Digest

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Effective Policies for Remedial Education

by Erika Yamasaki

Current discussions about postsecondary remedial education reflect differences in the opinions of legislators, educators, and the public as to the purpose and effectiveness of higher education. Concerned parties are asking, how many students need remedial education? Who are they? How much does it cost? Does it achieve its purpose? While these questions require attention, the more pressing issue is that of responsibility. Should the burden of remediation fall on community colleges or four-year institutions? Or should the nation's high schools be held responsible for adequately preparing their graduates?

In summarizing the volume of *New Directions for Community Colleges* edited by Jan M. Ignash (1997), this Digest reviews the role of research in addressing these policy decisions on remedial education. Effective solutions implemented by community colleges across the nation also are highlighted.

Informed Policy

The data cited by Ignash (1997) indicate a high demand for remedial education. A fall 1995 survey conducted by the National Center for Education Statistics (NCES) found that 29 percent of first-time freshmen enrolled in public institutions of higher education took remedial courses in reading, writing, or math. At community colleges, which provide the bulk of postsecondary remediation, the figure was 41 percent. Despite such evident need, the response of some states has been to ban or restrict remedial course offerings. In 1994, the Trustees of the California State University (CSU) system proposed to shift 90 percent of its remedial education to the community colleges by the year 2007. Strong opposition from community colleges and other groups in California has forced CSU officials to postpone this plan. Meanwhile, Florida legislators have been successful in prohibiting public universities from offering remedial courses.

Much of the opposition to remedial education is due to its costs. Often, however, the cost of remedial education seems astronomical because figures are provided outside the context of all instructional costs. For example, in Illinois, the total dollar amount devoted to remedial education provided in community colleges was $23.4 million, yet this was only 6.5 percent of all direct faculty salary costs (Ignash, 1997).

While cost invariably bears on state and institutional policy, effective solutions consider a broader base of information including student demographics, characteristics of successful programs, and program evaluations. Data on students' age, race/ethnicity, extent of necessary remediation, and English as a Second Language (ESL) needs can assist policy makers in allocating their scarce dollars where they are needed most (Ignash, 1997).

According to McMillan, Parke, and Lanning (1997), a number of studies document a high level of correlation between student success and the following program characteristics:

- required entry-level testing,
- mandatory placement in basic skills courses,
- continuous evaluation,
- interface between remedial and college-level courses, and
- using technology to offer remediation through alternative instructional media.

A well-designed assessment of programs also can inform the process of allocating public funds and increase accountability. Weissman, Bulakowski, and Jumisko (1997) recommend measuring four aspects of program effectiveness:

- course completion success rate, which is the percentage of students earning grades of C or better,
- movement of students from remedial to college-level courses,
- successful completion of college-level coursework, and
- student persistence over a three-year period.

Specific policy areas suggested for review include mandatory student placement into remedial courses, enrollment in remedial courses upon initial entry to the college, and concurrent enrollment in remedial and college-level courses.

Proactive Remediation

Both research and current practice support the use of structured assessment and placement of students in remedial courses. Based on the philosophy of *structured open access*, the "systematic use of academic standards linked with additional approaches to assist students to reach their educational objectives," this type of proactive institutional strategy has been more successful than an open-door, laissez-faire approach that allows students to enroll in any course regardless of prerequisites (Fonte, 1997, p. 45). Rather than limiting student achievement, such intervention builds connections among students, counselors, and faculty.

South Suburban College in Illinois adopted a structured model in the early 1990s that demonstrates that intrusive procedures need not be punitive and can actually foster a caring environment for students with remedial needs (Fonte, 1997). Samples of the 14 policies of the model include:

- Mandatory placement testing for full-time and part-time students who have taken six credit hours.
- Developmental (remedial) courses are mandatory beginning with the

student's first semester. Students on academic warning or probation status are required to develop an action plan to improve their academic standing.

The San Diego Community College District recently instituted mandatory enforcement of all course prerequisites, including recommended levels of English and math skills (Berger, 1997). Previously, the district did not insist on the use of prerequisites and students often enrolled in courses inappropriate for their ability levels. Although this system has not been in place long enough to evaluate results, some positive outcomes are evident. Berger (1997) notes increases in instructional research conducted by faculty as well as interaction among colleagues across the district. Increases in student success rates, however, remain to be seen.

Collaborative partnerships between community colleges and their feeder high schools are effective means of reducing the need for postsecondary remedial education (Richey, Mathern, O'Shea, & Pierce, 1997). By developing a secondary school writing curriculum and an assessment system that relies heavily upon portfolios that follow students throughout high school and to the community college, faculty from the two educational segments can make significant strides in promoting student success. Such a model also addresses growing public concerns that remedial courses in higher education are simply repeating what students should have learned in high school.

The Case of ESL

While the demand for remedial education in general is on the rise, ESL programs have experienced a tremendous influx of students as a result of the recent immigration wave (Kurzet, 1997). When challenged by the perennial dilemma of quality versus quantity, the ESL department at Portland Community College in Oregon decided it could provide both. Its successful action plan focused on meeting faculty development needs and overcoming three major impediments facing many ESL programs in community colleges: 1) lack of understanding of who ESL students are and what they need, 2) outdated assumptions about ESL instruction and student services, and 3) scarce public funding (Kurzet, 1997). Clarifying the needs of ESL students as well as the purpose and structure of the program has far reaching implications for students' financial aid status as well (Goldstein, 1997). Aid policies constructed to protect the integrity of public funds do place limits on the uses of these dollars for remediation. College officials can craft effective programs that allow ESL students and those in remedial/developmental programs to legally benefit from financial aid, but they must be aware of the restrictions that apply (Goldstein, 1997).

Conclusion

The upcoming reauthorization of the Higher Education Act will heighten the existing debate over postsecondary remedial education. Cost undoubtedly figures into all public policy, and this issue will not be an exception. However, the bottom line should not be the sole criterion for educational reform. Conducting research on remedial education, especially in the form of evaluating currently successful programs, can help facilitate the development of successful policy. By taking this approach, the core issues of responsibility and accountability can be addressed.

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This Digest is drawn from *New Directions for Community Colleges*, Number 100, edited by Jan M. Ignash, published in Winter 1997: "Implementing Effective Policies for Remedial and Developmental Education."

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"Mandatory Assessment and Placement: The View from an English Department," by Dorothy M. Berger.

"Structured Versus Laissez-Faire Open Access: Implementation of a Proactive Strategy," by Richard Fonte.

"Financial Aid and the Developmental Student," by Michael B. Goldstein.

"Who Should Provide Postsecondary Remedial Developmental Education?" by Jan M. Ignash.

"Quality Versus Quantity in the Delivery of Developmental Programs for ESL Students," by Reuel Kurzet.

"Remedial/Developmental Education Approaches for the Current Community College Environment," by Virginia K. McMillan, Scott J. Parke, and Carol A. Lanning.

"Community College/High School Feedback and Collaboration: Preventive Measures," by Deborah K. Richey, Jeanette Mathern, Carol S. O'Shea, and Shelby J. Pierce.

"Using Research to Evaluate Developmental Education Programs and Policies," by Julie Weissman, Carole Bulakowski, and Marci K. Jumisko.

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The George Washington University Department of Education

Enacting Diverse Learning Environments: Improving the Climate for Racial/Ethnic Diversity in Higher Education

Sylvia Hurtado, Jeffrey Milem, Alma Clayton-Pedersen and Walter Allen

Research over the years has begun to provide important guidance in understanding how to achieve diversity while improving the social and learning environments for students from different racial/ethnic backgrounds. One key to enacting diverse learning environments lies in understanding and developing programs and policies to improve the campus climate for racial/ethnic diversity, which involves understanding the environment from the perspectives of members from different racial/ethnic backgrounds, creating opportunities for improved race relations that permeate the classroom and extracurricular lives of students, and realizing the educational benefits of diverse learning environments for students who will need to be prepared to meet the demands of a complex, diverse society. Given the extensive effort and progress colleges and universities have made toward diversification in the last 20 to 30 years, it is important to reflect on how learning and educational objectives can be maximized.

WHAT IS THE CAMPUS CLIMATE FOR RACIAL/ETHNIC DIVERSITY?

To improve the climate, one must conceptualize it in relation to racial/ethnic diversity so that its impact can be assessed. In higher education research, the campus climate has been defined as the current perceptions, attitudes, and expectations that define the institution and its members (Peterson and Spencer 1990). These common attitudes and perceptions have been conceptualized as malleable and distinguishable from the stable norms and beliefs that may constitute an organizational culture. This perspective of the climate is modified by researchers who have begun to systematically assess the climate by examining the perceptions and attitudes of various groups on campus, and it is greatly enhanced by theories of race relations and social psychology when the psychological climate is related to racial/ethnic diversity. These theories present the notion that quite diverse views of the environment emerge as a result of racial dynamics that develop on a campus. Theories of race relations and racial attitudes assist us in understanding why an individual or group may hold a particular view of the environment. Moreover, although traditional notions of climate have focused on the psychological dimension, it is linked with a historical legacy of exclusion at the institution, its structural diversity, and behaviors on campus that include interactions inside and outside the classroom. These aspects of the institutional context are informed by changes in government and policy and the larger forces of sociohistorical change in our society. This framework provides a sense of how racial/ethnic diversity permeates many aspects of a campus environment and the many ways in which researchers have attempted to capture aspects of the issue of diversity on campus. A key finding emerging from this literature is that each aspect of this framework is connected with each other. That is, campuses can no longer speak about changes in the number of diverse students without recognizing how this change affects the psychological climate or opportunities for interaction across different groups on campus--and ultimately changes in educational outcomes for students.

WHAT IMPACT DOES THE CLIMATE FOR DIVERSITY HAVE ON STUDENTS?

An important principle underlying this conceptualization of the climate for diversity is that different racial/ethnic groups often view the campus differently, a fact that has been confirmed in numerous studies. Further, each conception is valid because it has real consequences for the individual (Astin 1968; Tierney 1987). In this regard, it is realistic to find research studies in which some elements of the climate may have more salience for particular groups and therefore take on more importance in students' lives as a result. Therefore, *Enacting Diverse Learning Environments* attempts to draw from studies on many different racial/ethnic groups to provide a balanced portrait of how different

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groups view the campus climate and experience its effects. It also brings to light some of the lesser known studies to connect them with the more widely read theory and research in higher education, psychology, and sociology. Moreover, both researchers and educators must acknowledge there is much to be learned from research conducted on specific groups, including African-American, Asian Pacific-American, Latino, Native American, and white students. Overall, the literature reveals how the different, interrelated aspects of the climate for diversity are linked with a broad range of educational outcomes for diverse groups of students.

First, the research shows that increasing the racial/ethnic diversity on a campus while neglecting to attend to the racial climate can result in difficulties for students of color as well as for white students. Research has documented well how different racial/ethnic groups can experience difficulties as a result of a poor racial climate. This research shows that individuals' and particular groups' perceptions of the environment are not inconsequential or intangible, but have tangible and real effects on the transition to college and on educational outcomes. Second, many studies indicate the importance of having diverse peers in the learning environment for important outcomes, such as improvements in students' ability to engage in more complex thinking about problems and to consider multiple perspectives, and improvements in intergroup relations and understanding. Harnessing the learning that can be achieved through contact in student peer groups is key. Third, additional empirical studies reveal that, under certain optimal conditions, racial conflict can be minimized and learning environments enhanced by diversity. Much of this work suggests that providing opportunities for quality interaction and an overall climate of support results not only in a better racial climate but also in important learning outcomes for students. In many ways, racial/ethnic diversity is linked with institutional goals for learning and teaching.

HOW CAN THE CLIMATE FOR RACIAL/ETHNIC DIVERSITY BE IMPROVED TO ENHANCE THE LEARNING ENVIRONMENT?

Improving the climate may require some fundamental institutional changes. Most basic is a conceptual shift in thinking about how diversity is central to the institution's overall priorities for teaching and learning, which also requires a change in how students are regarded or valued. Twelve principles derived from the research can become central in campus initiatives to improve the climate for racial/ethnic diversity. It begins with an articulation of how diversity is central to education and continues with self-examination. Second, institutions can structure opportunities for increased interaction and involvement among students from diverse racial/ethnic groups in the classroom and outside the classroom. A limited number of examples of promising practices in *Enacting Diverse Learning Environments* attempt to realize the potential benefits of racially/ethnically diverse student environments and intentionally create opportunities for learning and interacting across communities of difference.

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Migrant Students Attending College: Facilitating Their Success

By Susan Morse and Patricia Cahape Hammer

Overview

To succeed in college, migrant students must (1) complete high school with adequate preparation for college, (2) apply and be accepted to college, (3) find scholarships or other funding to attend, and (4) progress through college to graduation. Being a migrant complicates these basic steps because of frequent moves, poverty, gaps in previous schooling, and language barriers. Migrant students also confront societal and institutional barriers, due to ethnic differences and community isolation. Despite these challenges, some migrant students attend and graduate from colleges and universities. This Digest discusses common stumbling blocks and ways colleges and universities can help more migrant students succeed.

Background

Migrants are defined in U.S. Department of Education guidelines as "...migratory workers, or the children of migratory workers who move for the purposes of obtaining seasonal or temporary work in agriculture or fishing" (U.S. Department of Education, 1994).

Poverty, language, and cultural differences add to the challenges posed by mobility, the identifying characteristic of the migrant child. Moving from place to place makes it difficult to attend school regularly, learn at grade level, accrue credits, and meet all graduation requirements. It is also difficult to participate in sports or other socializing activities and gain nonagricultural work experience. Mobility makes it harder to receive the adult support most young people need to prepare for college (Johnson, Levy, Morales, Morse, & Prokop, 1986) and meet the residency requirements of some colleges.

For more than 20 years, the U.S. Department of Education's Migrant Education Program has worked with states and local districts to improve high school graduation rates of migrant students. As a result, graduation rates have risen from 10% to more than 40%. This success was acknowledged in the 1994 reauthorization of funding for the program. Now educators are being urged to "...prepare [migrant children] to make a successful transition to postsecondary education or employment" (U.S. Department of Education, 1994).

Data regarding migrant college entrance and completion rates are limited because few programs track students beyond high school graduation. Also, funding for the Migrant Student Record Transfer System was terminated in 1994, eliminating a nationwide database on migrant students.

Migrant high school dropout rates ranged from 45% to 65% in two older studies (Levy, 1987; Vamos, 1992). These studies were based on students tracked from sixth grade or later. A high "disappearance" rate of migrant students impeded such studies; students were lost because they no longer qualified for services or moved and were not located again.

Far more information is available about Hispanic students in general. These studies are relevant because most migrants are Hispanics. One study revealed Hispanic enrollment in higher education doubled between 1984 and 1995, the largest gain among the four major ethnic minority groups. But only 45% of these students enrolled in four-year institutions. Hispanics are still underrepresented (by about 50%) in postsecondary institutions overall (Carter & Wilson, 1997).

Despite steady gains in the number of postsecondary degrees conferred, Hispanics remain underrepresented in this category also. In 1993, while Hispanics comprised about 10% of the U.S. population, they earned only 5.9% of associate degrees, 3.9% of bachelor's degrees, 2.9% of master's degrees, and 4% of professional degrees (Carter & Wilson, 1996).

Obstacles and Elements of Success

Various studies have identified obstacles encountered by migrant college students. For example:

- Since recent antiaffirmative action laws were passed in California, minority student participation at public universities and graduate institutions has decreased. The diversity of enrollment at private institutions, however, has increased (Carter & Wilson, 1997).
- Students with pending or without adequate immigration documentation face limited access to postsecondary education and financial aid. Some adult education programs and community colleges serve them. These students show an enrollment decline, while minorities generally have gained in enrollment (Carter & Wilson, 1997).
- Time is important for migrant students who must finish college and begin earning a living to help support family members (Young, 1992).
- In a study of 129 migrant youth who had received awards from the Mattera National Scholarship Fund, Durón (1995) identified financial need as the primary reason for dropping out of college.

The Durón study provided several other insights into migrant students' experiences before and after attending college. The most important factors contributing to students' decisions to participate in postsecondary education were:

> 1) access to quality high school and college counseling that offers an array of options; 2) personal factors, including the individual's motivation and beliefs about self efficacy; 3) financial factors including access to scholarships, loans, and work or work-study programs; and 4) ongoing support from family and educational personnel (pp 34-35).

The last of these factors was considered paramount by nearly all of the students. Parent involvement in decision making about education is key to an overall home/school/community supportive partnership.

Other studies have shown that certain preparations during high school can increase migrant students' chances for success in college:

- Schools should provide academic opportunities for making up credit, tutoring, appropriate courses, and test-taking and study-skills development (Johnson, et al., 1986).
- Schools need to nurture a supportive environment with expressed expectations by staff that migrant students will attend college. Staff should assist students in applying to and preparing for college, and encourage students to inter-

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act with peers planning to attend college. This type of involvement increases college attendance rates (Horn & Chen, 1998).

- Parents need to become engaged in their children's education and discuss college options with them (Horn & Chen, 1998).

Programs Promoting College Preparation

Secondary school migrant advocates and advisors. In a Florida program, mentors monitor secondary student progress and attendance, facilitate work-study, provide family and community intervention, and promote college attendance. The mentors direct students to college awareness activities and assure that students take appropriate courses and college entrance exams. Dropout rates were lower in programs using advocates (Jones, 1987).

Correspondence programs. The Portable Assisted Study Sequence (PASS) program (http://www.televar.com/pass/) is a mentored correspondence program that uses independent study and sequential curriculum units to cover subject areas from grades 6 through 12. Some students do not drop out, but fail to graduate because they lack credits; the PASS program addresses this problem by offering a program that allows students to study as they migrate. The program is offered in 29 states (Milton & Watson, 1997).

College preparation. In the Advancement Via Individual Determination (AVID) program, non-college-bound students are placed in college preparation and advanced placement classes and provided tutoring, study skills, and college motivation. AVID students benefit from peer and school support and have a 90% college enrollment rate at 2- and 4-year institutions (Horn & Chen, 1998).

The High School Equivalency Program (HEP) is for migrant students who are at least 16 years old and who are not enrolled in school. The program helps them obtain their high school equivalency certificate and continue on to postsecondary education, job training, or the workplace. Students reside on campus at one of 20 colleges and universities around the country. The HEP program has a 70% GED completion rate; 29% of students enroll in postsecondary institutions (Biennial Evaluation Report, [1995]).

Summer college residential programs. These programs on college campuses are funded by the Migrant Education Program, other federal programs, or university resources. Chances for success increase because migrant middle and high school students live on college campuses far from home and engage in college activities and courses. In some regions, an advisor facilitates applications and scholarships to colleges.

Programs Promoting College Completion

Colleges emphasizing multiculturalism (25% minority) and Hispanic serving institutions (25% Hispanic enrollment) can provide peer support, culturally relevant courses, first- and second-language instruction, and cross-cultural experiences (Carter & Wilson, 1996). Ivy League colleges seeking to maintain at least 90% graduation rates have learned that monitoring progress and providing assistance prevents students from falling behind. Cooperative study groups significantly reduced minority dropouts at the University of California, Berkeley. College Assisted Migrant Programs (CAMP) have lowered freshman dropout rates by offering academic support and work options to students during their crucial first year of college (National Commission on Migrant Education, 1992).

Conclusions and Recommendations

When selecting a college, migrants should consider campus atmosphere and support systems, such as academic support, clubs, and on-campus work opportunities. On-campus work experiences and participation in clubs or student organizations increase involvement in college life (National Commission on Migrant Education, 1992).

Fink (1995) advised college-bound migrant students to share their interest in going to college with family, counselors, and others who can relate to their experiences. Students should take challenging courses in high school and take the Scholastic Aptitude Test (SAT) and American College Test (ACT). Teachers, counselors, and family should all work together to support the student's plans. Visiting a campus and seeking information about financial aid are also important steps. Scholarship directories are available from many state migrant education programs.

Important financial considerations in selecting a college should include:

- an institution's graduation rate;
- the average years required to graduate;
- availability of courses needed for graduation;
- earning power at graduation;
- housing costs and options, including facilities for students during holidays;
- availability of public and private scholarships; and
- scholarship and loan packages, caps on loans, and loan payoff options.

Migrant students aware of their options for college generally are highly motivated to attend. However, in order to succeed, they and their families need knowledge of available educational opportunities and support from high school and postsecondary staff in identifying and overcoming obstacles.

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Susan C. Morse is the former Migrant Education Coordinator for Region XVI and is currently a freelance writer and staff development trainer residing in Carmel, California.

Patricia Cahape Hammer is associate director of the ERIC Clearinghouse on Rural Education and Small Schools in Charleston, West Virginia.

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(310) 825-3931

Digest

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Using Technology in Remedial Education

by Jennifer Rinella Keup

"Remedial education," "academic upgrading," and "basic skills instruction," are among the many terms used to describe higher education programs for students who are not academically prepared for college-level work. Regardless of the semantics, remediation is a continuing challenge for higher education institutions. This is especially true for community colleges where the majority of students requiring remedial curricula is concentrated. In an effort to increase financial efficiency and learning effectiveness, community colleges have investigated the use of technology and computer-aided instruction in remedial education (Wilson, 1992; McMillan, Parke & Lanning, 1997). Over the past few decades, a burgeoning technology industry has struggled for a place in the traditional education system. The real question regarding technology use in higher education curriculum is not "whether to use computers in education, but how" (Rapp & Gittinger, 1993, p. 2). Many potential benefits of computer-aided instruction have been suggested including privacy, objectivity, timeliness of feedback, individuation of learning, flexibility, convenience, and a non-threatening learning environment for students (Wilson, 1992). These features of computer-aided instruction appear to offer an arena for the integration of educational goals with technological advancements in remedial education.

This Digest discusses two specific computer-aided instruction systems used in remedial education programs at two-year colleges in the United States and Canada: SYNERGY and INVEST. Additionally, general observations regarding the student outcomes from the use of these computer-based systems will be addressed including some critical points regarding the implementation and adjustment process for institutions utilizing technology and computers in remedial education programs.

The Instruction Systems

As implemented in the Nova Scotia Community College System in Canada, the INVEST system is a Local Area Network (LAN) computer system that incorporates approximately 4,000 lessons into a three-tiered system. Tier 1 provides Literacy-Based Instruction, Tier 2 focuses on Adult Basic Education, and Tier 3 furnishes General Education Development (GED) Exam Preparation. Mathematics, reading, writing, and life-skills instruction are available in each of the three tiers, and instructors determine the level of mastery required of students to progress within the tier.

A pre-test determines where students are placed initially within the lessons in each subject area. These computerized lessons provide information and opportunities for practice in the four subject areas. Performance on a post-test measures students' mastery of the subjects. A successful performance on the post-test allows the student to advance to the next module of pre-test and lessons in that tier. Instructors are made aware of student difficulties through a "lock out" mechanism on the program. That is, after the maximum number of unsuccessful attempts (as previously determined by the instructor) is reached on the mastery tests, the program will freeze and require the student to see the instructor in order to continue the program (Moore, 1993).

Another means instructors used to communicate with students in the Nova Scotia Community College INVEST project is a computerized journal. One file of the journal is private, and students are encouraged to write in it daily. The other file is an interactive teacher-student journal. Students are expected to write comments, concerns and questions on a daily basis, and the instructor reads and responds to the student communication. According to both Wilson (1992) and Moore (1993), student gains were achieved in both reading and math. The increase in reading was not significantly different from the gains found in reading among students in a traditional, non-computerized remedial program. However, the increase in mathematics achievement using the INVEST system, particularly in the areas of mathematical concepts and problem solving, was greater than the gains in classrooms using traditional teaching approaches (Wilson, 1992; Moore, 1993).

Project SYNERGY is an instructional management system that was developed through the efforts of 19 two-year colleges and three four-year colleges under the direction of Miami-Dade Community College in Miami, FL. The system and instructional software are the result of research conducted by 39 faculty members at four institutions. They reviewed over 298 software packages to assess quality, amass a bank of questions to test for basic skills mastery, and conduct software implementation tests (Anandam, 1994). The end product of the review is the Project SYNEGY integrator, an adaptive, computerized management system for remedial education (Anandam, 1994).

The Project SYNERGY Integrator (PSI) facilitates basic-skills development through a Windows-driven access module for the student and command module for the instructor. The integration of these two modules allows instructors to set preferences, monitor the students' progress, receive reports, modify the curriculum, send e-mail, and personally intervene in the learning process. Additionally through the system, the student is able to create a personalized curriculum based on computerized

placement tests. The student is also able to ask for assistance from other students or the instructor at any time during the learning process.

General Observations

In discussions of computer-aided instruction, an often-raised question is, "Is it better than text- or lecture-based instruction?" With regard to remedial education, the results have been quite positive. Initial findings about the effectiveness of computerized programs have largely been determined through the use of student evaluations and student and instructor feedback. Regardless of the source of the feedback, the type of computer-assisted instruction, or the location of the program, several observations were consistent.

The first of these observations is that "self-paced," "self-directed," and "self-sufficient" computerized technology used by students in remedial programs may change the role of the instructor to that of a facilitator, but the computer does not replace the instructor. The role of the instructor is critical in the management of the educational systems, especially in introducing students to computer use (sometimes for the first time), and monitoring and providing timely feedback on the student's progress. In one sample of feedback from students using the INVEST program at the Cumberland Campus of the Nova Scotia Community College System, 80 percent stated they wanted more time with the instructor to confirm what they were learning from the computerized lessons (Moore, 1993). However, one main complaint of instructors was that various systems of computer-aided remedial instruction require the instructor to function so much as a "system manager" that the role of the instructor as a "learning facilitator" may suffer (Wilson, 1992; Moore, 1993; Perry & Ford, 1994). Clearly this is an area for refinement in the future of computer-assisted remedial instruction.

A second general observation from many institutions using these types of programs is that collaborative learning is a critical component to computer-assisted remedial education. Student-to-student communication was either a built-in component to the computer system or was strongly encouraged in remedial/developmental programs. Student and instructor feedback indicated that this was easy to accomplish through e-mail and Local Area Networks and was an important part of the learning process.

Finally, researchers have identified certain student, faculty, and institutional features that facilitate the implementation and success of these computer-assisted remedial education systems. Perry and Ford (1994) cite mature, independent students, a sophisticated computer system, and a well-equipped computer lab. Cornell, Fazio, Florschuetz, Howard, Leyva, Martinez, Mee, O'Brien and Reinders (1996) found a relevant and holistic curriculum with clear learning objectives to be integral to success. Anandam (1994) lists such features as faculty involvement, an institutional commitment to technology, faculty development programs, and realistic expectations and assessment procedures.

Conclusion

The demand for remedial education at the post-secondary level continues to increase and provides new pressures for many community colleges. Based on positive student and instructor response to computer-aided instruction, it appears that technology can provide one answer to this growing challenge. Several common themes emerge when discussing the successful implementation of computer-aided remedial curriculum and should be considered in the planning and implementation stages of remedial education programs. Formal systems such as INVEST and SYNERGY are beginning to provide an infrastructure for community colleges to systematically handle the challenges and demands of remedial education through the use of technology.

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Priority 4: Standards for Achievement and Accountability

All states and schools will have challenging and clear standards of achievement and accountability for all children, and effective strategies for reaching those standards.

ERIC Clearinghouse on Elementary and Early Childhood Education

University of Illinois • 51 Gerty Drive • Champaign, IL 61820-7469
(217) 333-1386 • (800) 583-4135 (voice/tty) • ericeece@uiuc.edu • http://ericeece.org

ERIC DIGEST
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Another Look at What Young Children Should Be Learning

Lilian G. Katz

The question of what should be learned must be addressed by all teachers at every level. In terms of broad goals, most teachers and parents readily agree that children should learn whatever will ultimately enable them to become healthy, competent, productive, and contributing members of their communities. But when it comes to the specifics of what should be learned next month, next week, or on any particular day, agreement is not so easily achieved.

The answers will depend partly on the ages of the learners. In other words, the question of *what* should be learned to some extent depends upon *when* it is to be learned. Although the *what* question deals with the goals and objectives of education, the *when* question involves considerations of what we know about the nature of development and how it relates to learning.

What should be learned takes on new importance as states begin to establish standards for student performance, and as new concern is voiced about "social promotion." The interest in standards, competencies, and promotion policies is likely to have a renewed "push-down" effect on prekindergarten education. It is interesting to note that the recent legislation reappropriating funds for Head Start establishes performance standards and stipulates that all Head Start graduates must learn 10 letters of the alphabet (National Head Start Association, 1998, p. 5). What the letters are expected to mean to the children has not been addressed; these new requirements are apparently intended to address the issue of readiness for formal instruction in literacy and numeracy.

This Digest first defines the concept of development and then outlines some ways to approach both the "what" and "when" questions in terms of what we are learning from research about the effects of various curriculum approaches.

The Nature of Development

The concept of development includes two major dimensions: normative and dynamic. The normative dimension concerns the typical or normal capabilities as well as limitations of most children of a given age within a given cultural milieu. The dynamic dimension concerns the sequence and changes that occur in all aspects of the child's functioning with the passage of time and increasing experience, and how these changes interact dynamically (Saarni, Mumme, & Campos, 1998). Although the normative dimension indicates a probable range of what children typically can and cannot be expected to do and to learn at a given age, the dynamic dimension raises questions about what children should or should not do at a particular time in their development in light of possible long-term dynamic consequences of early experience. In many preschool programs and kindergartens, for example, young children are given instruction in phonics and are expected to complete worksheets and recite number facts in rote fashion. But just because young children *can* do those things, in a normative sense, is not sufficient justification for *requiring* them to do so. Most young children willingly do most things adults ask of them. But their willingness is not a reliable indicator of the value of an activity. The developmental question is not only, "What can children do?," rather it is also, "What should children do that best serves their development and learning in the long term?"

Four Categories of Learning Goals

The four categories of learning outlined below are relevant to all levels of education—especially to the education of young children:

Knowledge. In early childhood, knowledge consists of facts, concepts, ideas, vocabulary, stories, and many other aspects of children's culture. Children acquire such knowledge from someone's answers to their questions, explanations, descriptions, and accounts of events, as well as through active and constructive processes of making the best sense they can of their own direct observations.

Skills. Skills are small units of action that occur in a relatively short period of time and are easily observed or inferred. Physical, social, verbal, counting, and drawing skills are among a few of the almost endless number of skills learned in the early years. Skills can be learned from direct instruction or imitated based on observation, and they are improved with guidance, practice, repetition, drill, and actual application or use.

Dispositions. Dispositions can be thought of as habits of mind or tendencies to respond to certain situations in certain ways. Curiosity, friendliness or unfriendliness, bossiness, generosity, meanness, and creativity are examples of dispositions or sets of dispositions, rather than of skills or items of knowledge. Accordingly, it is useful to keep in mind the difference between having writing skills and having the disposition to be a writer, or having reading skills and having the disposition to be a reader (Katz, 1995).

Dispositions are not learned through formal instruction or exhortation. Many important dispositions, including the dispositions to learn and to make sense of experience, are in-born in *all* children—wherever they are born and are growing up. Many dispositions that most adults want children to acquire or to strengthen—for example, curiosity, creativity, cooperation, openness, friendliness—are learned primarily from being around people who exhibit them; they are strengthened by being used effectively and by being appreciated rather than rewarded (Kohn, 1993).

To acquire or strengthen a particular disposition, a child must have the opportunity to express the disposition in behavior. When manifestations of the dispositions occur, they can be strengthened as the child observes their effectiveness and the responses to them and experiences satisfaction from them. Teachers can strengthen certain dispositions by setting learning goals rather than performance goals. A teacher who says, "See how much you can find out about something," rather than, "I want to see how well you can do," encourages children to focus on what they are learning rather than on an external evaluation of their performance (Dweck, 1991).

Feelings. Feelings are subjective emotional states. Some feelings are innate (e.g., fear), while others are learned. Among feelings that are learned are those of competence, confidence, belonging, and security. Feelings about school, teachers, learning, and other children are also learned in the early years.

Learning through Interaction

Contemporary research confirms that young children learn most effectively when they are engaged in interaction rather than in merely receptive or passive activities (Bruner, 1999; Wood & Bennett, 1999). Young children therefore are most likely to be strengthening their natural dispositions to learn when they are interacting with adults, peers, materials, and their surroundings in ways that help them make better and deeper sense of their own experience and environment. They should be investigating and purposefully observing aspects of their environment worth learning about, and recording and representing their findings and observations through activities such as talk, paintings, drawings, construction, writing, and graphing. Interaction that arises in the course of such activities provides contexts for much social and cognitive learning.

Risks of Early Academic Instruction

Research on the long-term effects of various curriculum models suggests that the introduction of academic work into the early childhood curriculum yields fairly good results on standardized tests in the short term but may be counterproductive in the long term (Schweinhart & Weikart, 1997; Marcon, 1995). For example, the risk of early instruction in beginning reading skills is that the amount of drill and practice required for success at an early age seems to undermine children's disposition to be readers. It is clearly not useful for a child to learn skills if, in the process of acquiring them, the disposition to use them is lost. In the case of reading in particular, comprehension is most likely to be dependent on actual reading and not just on skill-based reading instruction (Snow, Burns, & Griffin, 1998). On the other hand, acquiring the disposition to be a reader without the requisite skills is also not desirable. Results from longitudinal studies suggest that curricula and teaching should be designed to optimize the simultaneous acquisition of knowledge, skills, desirable dispositions, and feelings (Marcon, 1995). Another risk of introducing young children to formal academic work prematurely is that those who cannot relate to the tasks required are likely to feel incompetent. Students who repeatedly experience difficulties leading to feelings of incompetence may come to consider themselves stupid and bring their behavior into line accordingly (Bandura et al., 1999).

Variety of Teaching Methods

Academically focused curricula for preschool, kindergarten, and primary programs typically adopt a single pedagogical method dominated by workbooks and drill and practice of discrete skills. It is reasonable to assume that when a single teaching method is used for a diverse group of children, many of these children are likely to fail. The younger the children are, the greater the variety of teaching methods there should be, because the younger the children, the less likely they are to have been socialized into a standard way of responding to their social environment.

In this way, it is more likely that children's readiness to learn school tasks is influenced by background experiences that are idiosyncratic and unique. For practical reasons, there are limits to how varied teaching methods can be. It should be noted, however, that while approaches dominated by workbooks often claim to individualize instruction, individualization rarely consists of more than the day on which a child completes a particular page or other routine task. As suggested by several follow-up studies, such programs may undermine children's in-born disposition to learn—or at least to learn what the schools want them to learn (Schweinhart & Weikart, 1997; Marcon, 1995).

The Learning Environment

As for the learning environment, the younger the children are, the more informal it should be. Informal learning environments encourage spontaneous play in which children engage in the available activities that interest them, such as a variety of types of play and construction. However, spontaneous play is not the only alternative to early academic instruction. The data on children's learning suggest that preschool and kindergarten experiences require an *intellectually* oriented approach in which children interact in small groups as they work together on projects that help them make increasing sense of their own experience. Thus, the curriculum should include group projects that are investigations of worthwhile topics. These projects should strengthen children's dispositions to observe, experiment, inquire, and examine more closely the worthwhile aspects of their environment. They usually include constructions and dramatic play as well as a variety of early literacy and numeracy activities that emerge from the work of the investigation and the tasks of summarizing findings and sharing the experiences of the work accomplished.

This Digest is a revision of the 1987 Digest What Should Young Children Be Learning? *by Lilian Katz.*

For More Information

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Building School-to-Work Systems in Rural America

Hobart Harmon

ERIC DIGEST

THIS Digest briefly describes the key components for building a local school-to-work partnership and discusses the rural context for implementing such an initiative. Local school-to-work partnerships have an important opportunity to reconnect rural students, teachers, and schools with their communities.

Background

The national education reform movement of the 1980s helped prepare America's youth for work and for making career choices. The reforms enlightened people about the rapidly changing skills required in the American labor market and the effectiveness of school-to-career systems of other advanced democracies (Mendel, 1994). Reports such as *Learning and Living: A Blueprint for High Performance (SCANS,* 1992) and *America's Choice: High Skills or Low Wages!* (National Center on Education and the Economy, 1990) accelerated interest in linking education to economic competitiveness and the employability of individual citizens. On May 4, 1994, Congress responded by passing Public Law 103-239 [H.R. 2884], the *School-To-Work Opportunities (STWO) Act of 1994*. The STWO Act was the first federal legislation to declare that preparing *all* students, including the college bound, to earn a living is one of the legitimate and important roles of schooling (Halperin, 1994).

The act established a national framework for each state to create school-to-work opportunities systems that (1) are part of comprehensive education reform, (2) are integrated with the systems developed under the Goals 2000: Educate America Act, and (3) offer opportunities for all students to participate in a performance-based education and training program. Under this framework, all students will be able to earn *portable* credentials; prepare for their first jobs in high-skill, high-wage careers; and pursue further education.

Implementation Grants to States and Local Partnerships

At the time of this writing, 39 states have been awarded federal incentive implementation grants for building a school-to-work opportunities system. To obtain a 5-year implementation grant, governors must submit applications that include a plan describing how their state will serve rural students in communities with low population densities. States must explain how federal grant funds will be allocated as subgrants to local school-to-work partnerships. States are required to use at least 70 percent of the funds for subgrants the first year of the grant, at least 80 percent the second year, and at least 90 percent in years three through five.

Local school-to-work partnerships must consist of employers; representatives of local education agencies and postsecondary institutions (including vocational education schools where they exist); area school teachers, counselors, or principals; representatives of labor organizations or other nonmanagement employees; students; and others. The local partnership's plan must agree with the state plan and must include a special compact that details the responsibilities and expectations of students, parents, employers, and schools.

Local partnerships are charged with implementing programs that have three key components: (1) work-based learning, (2) school-based learning, and (3) connecting activities. *School-based learning* focuses on career exploration and counseling, student selection of a career major, a program of study based on high academic and skill standards, a program of instruction that integrates academic and vocational learning, scheduled evaluations of students' academic strengths and weaknesses, and procedures that facilitate student participation in additional training or postsecondary education. *Work-based learning* is a planned program of job training or experiences, paid-work experience, workplace mentoring, and instruction in general workplace competencies and all aspects of an industry. *Connecting activities* include matching students with work-based learning opportunities; providing a school site mentor to act as a liaison for the student; providing technical assistance and services to employers or others in designing school-based learning activities; training teachers, mentors, and counselors; integrating academic and occupational education; linking program participants with community services; collecting and analyzing information regarding program outcomes; and linking youth-development activities with employer and industry strategies for upgrading workers' skills.

Local Partnerships and the Rural Context

Local partnerships in high poverty urban and rural areas may apply directly to the National School-To-Work Office for implementation grants. In fiscal years 1994-1997, 86 such local partnership grants were awarded (29 to rural grantees). Funding these partnerships in rural areas supports an important component of the nation's school-to-work system. More than 45 percent of the nation's schools and 50 percent of the local school districts are located in rural areas and small towns (Harmon, 1997). Across the United States, these communities have experienced high levels of economic distress. Nearly 1 in 5 rural residents lives in poverty, totaling almost 10 million people. More than 500 rural counties have had *persistently* high rates of poverty for the past 50 years, and some of these counties have higher poverty rates than the worst inner-city slums. Most of these people are defined as the working poor—because at least one family member is employed (Summers & Sherman, 1997).

Rural and urban labor markets differ substantially. Rural workers on average have less education and training and are more attached to their community of residence than their urban counterparts. And the terms of agreement between rural employers and employees may be more informal; for example, rural employers are more likely to allow workers to consume some products without paying for them. (Summers, Horton & Gringeri, 1995).

While many rural counties have struggled economically during the past several decades, others have experienced job growth. During the 1980s, rural economic winners—those with above-average annual growth in both employment and income—were retirement counties (25%), trade centers

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(35%), and manufacturing-dependent counties (20%). While 45 percent of the counties that made economic gains were located next to metropolitan areas, nearly two-thirds of the counties that suffered losses were far from any urban area. Thus, remoteness, a defining characteristic of many rural places, is an economic liability unless favorable scenery or climate can attract retirees, tourists, or entrepreneurs.

Aggravating the situation, most rural employed people are in natural-resource (e.g., coal mining) or low-wage, low-skill manufacturing jobs, all of which are vulnerable to layoffs. Rural areas are more likely to be dominated by and dependent on a single industry, thus increasing worker vulnerability. The need for rural economic development is clear, especially in remote areas and regions in decline. Most observers agree that schools have a role to play in fostering such development. The School-to-Work Opportunities Act, designed to give individual students portable skills, may also boost local economic efforts.

Implications for Rural Education

Fitzgerald (1995) maintains, "If it is not linked to education reform and skills enhancement, economic development can at best attract the same kind of low-end employment that has come to dominate many rural economies" (p. 437). However, it requires more than increasing the education levels of rural people to attract high-wage, high-skill jobs. Fitzgerald's research reveals there is often a negative relationship between education and economic development. Under these circumstances, educational investment pays off only for the rural students willing to migrate to areas that offer higher paying jobs.

In many rural areas, available jobs remain low skill, routine, and unrewarding. Yet employers expect employees to have highly developed dispositional or social skills such as "self-motivation, collaborative skills, 'sweet spirit,' personability, good communication, and work ethic" (Dansiz, 1996, p. 33). Imagining positive outcomes for school-to-work programs within this context can be difficult and discouraging. Moreover, some parents and community leaders believe school-to-work initiatives actually undermine local economic development by training students to leave the area, taking with them valuable skills gained in their towns and schools.

D. R. Reynolds (1995) argues that first and foremost among rural education policy issues is "what relationship should exist between local communities and the larger society and how this relationship should find expression in the school" (p. 477). Developing consensus about this relationship requires a discussion among the same players specified in the school-to-work legislation. Examining program purposes is a good first step toward fostering a closer relationship between schools and their rural communities. Once people have agreed on the relationship between their program purposes and local economy, they are in a better position to address other challenges: low teacher expectations for student achievement, cultural discontinuity between the school and the community, family influences, inadequate career counseling, inappropriate teacher education, limited transportation, and scarce workplace-learning opportunities for students in the community (Harmon, 1996).

Engaging youth to develop a "sense of place" in their communities has not been a strong theme in recent decades. This is substantiated by a study of rural youth aspirations (Howley, Harmon, & Leopold, 1996) and a 21-state study by six of the regional educational laboratories comparing aspirations of rural high school students with expectations of their parents and school staff (Ley, Nelson, & Beltyukova, 1996). Results reveal a clear preference for good occupational opportunities over involvement in creating and maintaining a strong community. In the study by the regional educational laboratories, rural youth ranked strong community attributes—community leadership, stewardship for the land, family connections, civic affairs, social responsibility, voluntary service, and close friendships—in the bottom half of factors they considered important to their future. The authors conclude that for rural youth, concerns for personal careers and economic success overshadow concerns for community well-being and involvement; and that for teachers, these trends are even stronger.

Conclusions

Some may see the school-to-work system benefitting only the individual student and potential employer. Yet, the ultimate success of school-to-work partnerships might be in connecting students to their community and future work by giving them a better understanding of the rural place in which they live—and may someday work (for examples of how this was done in three remote rural communities, see Miller & Hahn, 1997).

Can the school-to-work movement help rural youth and teachers regain their sense of local community? Can integration of school- and work-based learning enable parents and business, religious, and civic leaders to develop closer relationships between their rural values and the values promoted by the education system? A rural school-to-work opportunities system is more likely to be successful if it involves the community to set goals, utilizes the community as a learning laboratory, engages students in meaningful service-learning activities, creates school-based enterprises and other entrepreneurial initiatives tied to local economic needs, practices community-based career guidance, and embraces parents as equal partners. A school-to-work system without these features may be viewed as yet another mandated *urban project* with great potential to weaken further the essential relationship between schools and their communities in rural America.

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Hobart Harmon is the director of the Rural Center at Appalachia Educational Laboratory in Charleston, West Virginia.

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University of Illinois • 51 Gerty Drive • Champaign, IL 61820-7469
(217) 333-1386 • (800) 583-4135 • ericeece@uiuc.edu

ERIC DIGEST
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A Developmental Approach to Assessment of Young Children

Lilian G. Katz

For more than a decade, early childhood educators have been discussing issues of curriculum and teaching methods in terms of their developmental appropriateness. The concept of developmental appropriateness can also be extended to issues related to the assessment of children during the early years.

The Purposes of Assessment

Clarifying the main purpose for which young children are assessed can help determine what kinds of assessments would be most appropriate. Assessment of individual children might serve one of the following purposes:

- to determine progress on significant developmental achievements;
- to make placement or promotion decisions;
- to diagnose learning and teaching problems;
- to help in instruction and curriculum decisions;
- to serve as a basis for reporting to parents; and
- to assist a child with assessing his or her own progress.

Decisions regarding the purposes of assessment should begin with discussions among all the stakeholders—parents, educators, and other members of the community—as appropriate. The group may want to keep in mind that (1) plans, strategies, and assessment instruments are differentially suited for each of the potential purposes of assessment; (2) an overall assessment should include the four categories of educational goals: knowledge, skills, dispositions, and feelings (Katz, 1995); and (3) assessments made during children's informal work and play are most likely to minimize the many potential errors of various assessment strategies.

The Risks of Assessing Young Children

Young children are notoriously poor test-takers: perhaps because they are sometimes confused by being asked questions that they think the tester must already know the answers to! There is reason to suggest that the younger the child being evaluated, assessed, or tested, the more errors are made (Shepard, 1994; Ratcliff, 1995). If this principle is sound, then the younger the children, the greater the risk of assigning false labels to them. Another principle may also be appropriate: the longer children live with a label (a true or false one), the more difficult it may become to discard it.

All methods of assessment make errors: the errors made by formal tests are different from those made by informal or anecdotal records and documentation notes; the errors made by specific checklists of behavioral items are different from those made by holistic impressionistic assessments. Awareness of the potential errors of each evaluation or assessment strategy can help minimize errors in interpretation. It is a good idea to strive for a balance between global or holistic evaluation and detailed specific assessments of young children.

The Assessment of Young Children

As they plan assessments of young children's learning, parents and educators may want to:

Recognize the Limitations of Report Cards and Grades. For several reasons, report cards with letter grades or achievement scores are not appropriate for children at and below the third grade. First, before third grade, the differences in developmental timetables and other factors that contribute to performance are still too unstable, malleable, and varied to achieve reliability. By third grade, however, children's abilities and aptitudes are likely to have stabilized and can be assessed with at least minimal reliability. Second, there is little evidence that grades or scores listed on the report cards of young children contribute positively to those most in need of improvement. Third, while teachers need to know how well a young child is progressing on significant skills and knowledge, and to evaluate such progress, little is known about how parents use such information.

Assess Aspects of Children's Functioning That Have Real Meaning. The items and behaviors assessed should have demonstrable relationships to significant human functioning. For example, the child's knowledge of the names of shapes or of the calendar at age 4 or 5 has little or no practical significance or meaning beyond test performance itself. In addition to assessing young children's social competence, adults should include the assessment of individual children's progress in acquiring desirable dispositions, feelings, skills, and knowledge.

Documentation is a strategy for recording and presenting such assessments (see Katz & Chard, 1996).

Encourage Children to Assess Their Own Work. Preschoolers and children in the primary grades can be encouraged to assess their own work according to specific criteria such as the clarity, inclusiveness, interest level, comprehensiveness, or aesthetic qualities of the work. They can also be encouraged to consider the standards to be met on these criteria.

Encourage Children to Assess Their Own Progress. From kindergarten on, most children can be encouraged to assess the general progress of their own learning. During teacher–child or teacher–parent–child conferences, children can be encouraged to indicate what mastery and learning they want to focus on during a given period. From time to time, children can then be asked to judge their own progress, using three or four categories. For example, each child can be asked to discuss work she thinks she is making good progress on, what he thinks he needs to concentrate more on, what she wants help with, and other categories nominated by the child. Most children will be quite realistic and sensible when engaging in such self-evaluation. The teacher can help by expressing her own realistic evaluation in a serious and supportive way. In principle, unless children are consulted about their own views of their own progress, they cannot learn to assume some responsibility for it (Katz, 1995).

Involve Children in Evaluating the Class Community. Depending on their ages, children as a group can be encouraged to develop some criteria concerning what they want their classroom life to be like. These criteria are not simply lists of classroom rules. Rather they should be a thoughtful examination of what kind of community the class should be—for example, the extent to which it is a caring, cooperative group, respectful of individual differences; the extent to which it is a helpful community of scholars; and the extent to which it meets any other dimensions of classroom life the children and their teacher think are important.

Periodically, the teacher or a child can lead the group in a discussion concerning how well they are doing on these criteria as a class, and what additions or modifications of the criteria might be tried. Such discussions should be directed toward the development of positive and constructive suggestions.

Conclusion

Whenever a measurement is applied to a group of people of any age, especially a group that is diverse in background, experience, aptitude, development, culture, language, and interests, some will rank higher and some lower than others on any item assessed. All measures yield such differences, and it is thus statistically impossible for all those subjected to the same assessment to be above average! However, failure to evaluate and assess children's progress might mean that some children will be deprived of needed intervention with special services at a time when these services can do the most good. While educators cannot be accountable for all children being above average or for all children being first, they are accountable for applying all teaching strategies and efforts known to be effective and appropriate for the learning situation at hand. Assessment procedures should therefore indicate which of the strategies and resources available and judged appropriate have been employed to help each individual child.

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ERIC DIGEST

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Expectations for Students

By Linda Lumsden

Nearly all schools claim to hold high expectations for all students. In reality, however, what is professed is not always practiced. Although some schools and teachers maintain uniformly high expectations for all students, others have "great expectations" for particular segments of the student population but minimal expectations for others. And in many urban and innercity schools, low expectations predominate.

Asa Hilliard III (1991) contends that "our current ceiling for students is really much closer to where the *floor* ought to be." Many believe there is great disparity between "what youngsters are capable of learning and what they are learning" (John Bishop 1989).

Evidence suggests that schools can improve student learning by encouraging teachers and students to set their sights high.

Do Teachers' Expectations Affect Student Performance?

The expectations teachers have for their students and the assumptions they make about their potential have a tangible effect on student achievement. Research "clearly establishes that teacher expectations do play a significant role in determining how well and how much students learn" (Jerry Bamburg 1994).

Students tend to internalize the beliefs teachers have about their ability. Generally, they "rise or fall to the level of expectation of their teachers.... When teachers believe in students, students believe in themselves. When those you respect think you can, *you* think you can" (James Raffini 1993).

Conversely, when students are viewed as lacking in ability or motivation and are not expected to make significant progress, they tend to adopt this perception of themselves. Regrettably, some students, particularly those from certain social, economic, or ethnic groups, discover that their teachers consider them "incapable of handling demanding work" (Peggy Gonder 1991).

Teachers' expectations for students—whether high or low—can become a self-fulfilling prophecy. That is, students tend to give to teachers as much or as little as teachers expect of them.

A characteristic shared by most highly effective teachers is their adherence to uniformly high expectations. They "refuse to alter their attitudes or expectations for their students—regardless of the students' race or ethnicity, life experiences and interests, and family wealth or stability" (Barbara J. Omotani and Les Omotani 1996).

In What Ways May Teachers' Beliefs Translate Into Differential Behavior Toward Students?

Either consciously or unconsciously, teachers often behave differently toward students based on the beliefs and assumptions they have about them. For example, studies have found that teachers engage in affirming nonverbal behaviors such as smiling, leaning toward, and making eye contact with students more frequently when they believe they are dealing with high-ability students than when they believe they are interacting with "slow" students (Jerry Bamburg 1994).

Students who are perceived to be low in ability may also be given fewer opportunities to learn new material, asked less stimulating questions, given briefer and less informative feedback, praised less frequently for success, called on less frequently, and given less time to respond than students who are considered high in ability (Kathleen Cotton 1989).

In addition, instructional content is sometimes "dumbed-down" for students considered to be low in ability. Students in low groups and tracks are usually offered "less exciting instruction, less emphasis on meaning and conceptualization, and more rote drill and practice activities" than those in high or heterogeneous groups and classes (Cotton).

When teachers summarily categorize or label students, typically some students end up receiving "a watered-down curriculum and less intense—and less motivating—instruction" (Gonder).

What Other Factors May Influence What Is Expected of Students?

In the U.S., many subscribe to what Bamburg dubs a philosophy of "educational predestination." That is, innate ability is viewed as the main determinant of academic success. The role played by effort, amount and quality of instruction, and parental involvement is discounted (Bamburg).

Poor performance in school is often attributed to low ability, and ability is viewed as being immune to alteration, much like eye or skin

color. Therefore, poorly performing students often come to believe that no matter how much effort they put forth, it will not be reflected in improved performance.

This view contrasts sharply with the predominant perspective in many other cultures, where hard work and effort are considered key to students' academic achievement. In these cultures, high expectations are maintained for all students, and if a student is not succeeding, it is attributed to lack of effort and hard work, not to insufficient intellectual ability.

Tracking and ability grouping can also affect expectations. A criticism of traditional tracking is that expectations for students as well as pace of instruction are reduced in lower ability groups. According to Stockard and Mayberry (1992), "A large number of studies from a wide range of years suggest that... ability grouping appears to be detrimental for low-ability students.... [and] impedes the progress of students in lower groups." Mixed-age and mixed-ability classes, in contrast, have been shown to improve achievement, perhaps in part because more is expected from students in such groups.

What Do Students Have To Say About What Is Expected of Them?

Although students may appear to accept or even relish lax teachers with low standards, they ultimately come away with more respect for teachers who believe in them enough to demand more, both academically and behaviorally.

In a recent national survey of over 1,300 high school students (Public Agenda 1997), teens were asked on questionnaires and in focus group discussions what they think of and want from their schools.

Teens' responses concerning what they want were clustered in three main areas:

- *A yearning for order.* They complained about lax instructors and unenforced rules. "Many feel insulted at the minimal demands placed upon them. They state unequivocally that they would work harder if more were expected of them."
- *A yearning for structure.* They expressed a desire for "closer monitoring and watchfulness from teachers." In addition, "very significant numbers of respondents wanted after-school classes for youngsters who are failing."
- *A yearning for moral authority.* Although teens acknowledged cheating was commonplace, they indicated that wanted schools to teach "ethical values such as honesty and hard work."

Similarly, when 200 middle school students in Englewood, Colorado, were surveyed about their most memorable work in school, they repeatedly "equated hard work with success and satisfaction. Moreover, they suggested that challenge is the essence of engagement" (Wasserstein 1995).

What Can Teachers Do To Maintain High Expectations for All Students?

Research has shown that teachers' expectations for students tend to be self-fulfilling. Therefore, Jere Brophy (1986) advises teachers to "routinely project attitudes, beliefs, expectations, and attributions. . . that imply that your students share your own enthusiasm for learning. To the extent that *you treat your students as if they already are eager learners*, they will be more likely to become eager learners."

Obviously, having high expectations does not magically equalize students' innate abilities and learning rates. To accommodate differences among students and help all students achieve mastery without resorting to watering down standards and expectations, teachers can manipulate three variables—time, grouping, and methodology (Omatoni and Omatoni 1996).

Preservice and inservice training can sensitize teachers to possible unconscious biases and heighten their awareness of the detrimental effects of holding differential expectations for students.

Teachers who view intelligence as dynamic and fluid rather than static and unchanging are less likely to have rigid preconceived notions about what students will or will not be able to achieve.

When teachers and administrators maintain high expectations, they encourage in students a desire to aim high rather than to slide by. To expect less is to do students a disservice, not a favor.

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ERIC Q&A

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National Clearinghouse for ESL Literacy Education

Family and Intergenerational Literacy in Multilingual Communities

by Gail Weinstein
San Francisco State University

The terms intergenerational literacy and family literacy have been used to describe how literacy is valued and used in the lives of children and adults. They have also been used to describe educational programs designed to strengthen literacy resources by involving at least two generations. While there are many differences in definitions and approaches, a key notion that most family and intergenerational literacy studies and programs share is a recognition that the relationships between children and adults are important and that these relationships affect literacy use and development.

This Q&A reviews selected research, current policies, goals, models for program design, and curriculum approaches in intergenerational literacy work. It concludes with a discussion of promising practices in family literacy efforts.

What research has informed family and intergenerational literacy work?

The initial thrust for many family and intergenerational programs drew on research in emergent literacy that showed that parents' skills and practices influence the school achievement of their children (e.g. Sticht & McDonald, 1989; Teale 1982). These studies examined early home experiences and suggested that they had a profound effect on development of cognitive skills. The notion of parent as first teacher grew from this body of research and influenced the growth of programs that focused on early childhood development.

In the 1980s and early 1990s, a new genre of literacy studies emerged that views literacy practices from within the social and political context in which they occur (Street & Street, 1991). Ethnographers, researchers who seek to understand and document how others make sense of the world, argued that it was crucial to examine the functions and uses of literacy within a given community. Their studies highlighted differences in home and school practices, and in styles of interacting through oral and written language (Gadsden, 1992; Taylor, 1997).

In this period, interest grew in exploring how families for whom English is not the native language use languages and literacies. Studies of language use among Mexican Americans (Delgado-Gaitan, 1987), Navajos (McGlaughlin, 1992), Cambodians (Hornberger, 1996), and the Hmong (Weinstein, 1990/1997) for example, illustrate how language and literacy use reflect values, beliefs, and views of the world that are culturally patterned and may or may not be shared by school teachers and others. Ethnographic research makes it possible to document these differences and explore their consequences. As immigrant children gain access to English more quickly than their parents, this approach also makes it possible to look at the role of language and literacy in changing intergenerational relationships (Weinstein-Shr, 1995).

What are the policy initiatives that affect family literacy work?

The term family literacy has gained recognition through the growth of private and public initiatives such as the Barbara Bush Family Literacy Foundation, Toyota Families for Learning, Head Start, and Even Start, all of which draw on the language and concepts of emergent literacy research. The programs' primary purposes have been to focus on early childhood development, and to support parents in promoting the school achievement of their children.

Legislative priorities of the time may influence programs in ways that have little relation to educational research. The Personal Responsibility and Work Opportunity Reconciliation Act of 1996, for example, (also known as welfare reform), places enormous pressure on families to get off welfare and find jobs. These pressures may influence the content of family literacy classes as employment training becomes a focus of the adult education component (National Center for Family Literacy, 1997). In order to maintain funding, programs often must adapt to the current political realities which are reflected in funding priorities.

Equipped for the Future is a national adult literacy initiative to develop standards through a broad-based grassroots consensus-building process (Stein, 1997). The standards focus on the knowledge and skills adults need in their roles as workers, community members, and family members, as defined by adult learners, practitioners, and other stakeholders across the country. This approach to developing standards is consistent with the assumptions behind ethnographic research. The family member role map is one that will be a useful guide for future family literacy work.

What are the goals of family and intergenerational programs?

One set of goals for family and intergenerational programming has been improving the school achievement of children by promoting parental involvement. Programs aimed primarily at increasing parental involvement use activities that encourage or teach parents 1) to provide a home environment that supports children's learning needs; 2) to volunteer in the schools as aides or other roles; 3) to monitor children's progress and communicate with school personnel; and 4) to tutor children at home to reinforce work done in school (Simich-Dudgeon, 1986).

It has been argued that school-focused programs should enable schools to better respond to parents and families. With this as a goal, parents learn about school, but school personnel also learn about families, enabling schools to better respond to the realities of the communities they serve (McCaleb, 1994).

A second set of goals often found in family literacy programs is to improve skills, attitudes, values, and behaviors linked to reading (Nickse, 1990). Models that operate with these goals often produce a variety of reading activities. Some of these may involve teaching parents to imitate behaviors that occur in the homes of successful readers such as reading aloud to children and asking them specific types of questions as they read. Parents of young children may practice reading in adult groups using books that they may then read to their children. However, experience has shown that non-native English-speaking parents rarely know more English than their children, and thus are not comfortable reading to them. Fortunately, research indicates that there is a benefit to reading in any language (Cummins, 1981; 1996). Further, there is equal benefit to children when they read aloud to their parents (Tizard, Schofield, & Hewison 1982). Innovative programs may employ a variety of ways to foster a love of literature. In one program in Pajaro Valley, California, Latino adults study Spanish children's literature to help them prepare to read to their children (Ada, 1988). In others, like the Family and Child Education (FACE) program, Native Americans may take advantage of elders' storytelling skills as the basis for creating their own native language texts (Department of the Interior, 1997).

Another goal for some programs is to enable adults to develop a critical understanding of schooling to "evaluate and rehearse appropriate responses and develop networks for individual or group advocacy" (Auerbach, 1992, p. 35). Models for family and intergenerational literacy that address themselves to this goal are constituted by activities that address family and community concerns and that attend to the role of home language and culture.

Finally, some programs aim specifically to reconnect the generations in positive ways. In addition to the stresses of voluntary or involuntary resettlement, multilingual families may find that their difficulties are exacerbated by the differences among generations in the pace of language acquisition. Children who have more exposure to English are often placed in a position of translating and solving other problems for parents, reversing traditional roles and creating additional stresses for all involved. Children and adults are resources for one another. In one family literacy class, for example, participants are creating a family web page in which adults provide the material that children enter onto the computer and illustrate (Hovanesian, in press). Projects like these draw on the resources of children for English and computer facility, while tapping the memories, knowledge, and stories of adults. In this way, literacy is advanced while generations are connected.

What are some models for family literacy program design?

The goals of the program will determine the program design. The design takes into account the characteristics of the participants targetted as well as appropriate activities for working with these learners.

In the Kenan model, on which the federally funded Even Start is based, pre-school children and adults participate in homogeneous age groups as well as in intergenerational family groups. There are four components: 1) adult education and ESL in which curricula vary from program to program; 2) parenting discussions or classes with a frequent focus on early childhood development; 3) classes for young children; and 4) activities for parents and children together (Brizius & Foster, 1993). These components are developed and implemented through collaborative efforts of child and adult educators.

Other models may begin with any one generation and reach out to others. Child educators may reach out to families and communities through children. A teacher, for example, sends journals home so that children bring material about their families and their communities into the classroom (Doorn, 1995). Parents, may participate in discussions, and language-development activities focus specifically on family issues (McGrail, 1995). Family issues may be the focus of workplace instruction (Nelson, 1998). Elders, too, are an untapped resource for supporting family literacy (Weinstein-Shr, 1993) and providing access for children to "community funds of knowledge" (Moll, 1992, p. 20). In one project, Chinese elders are documenting their memories of Chinese festivals by creating a video as well as a book of poetry and recipes for the youth of the community (Hartman, in press). Children, adults, and elders all benefit from developing their own language resources as they connect with one another through literacy.

What kinds of curricula and materials are used in family literacy programs?

Curricula and materials are largely influenced by program goals. Programs that aim primarily at increased parental involvement in schooling often draw on competency-based curricula for adults. This approach emerged in the late 1970s in a shift away from grammar-based curriculum when newly arriving refugees needed English for immediate application in their new lives (Peyton & Crandall, 1995). For family literacy, content might include specific lessons on the school system and its personnel, study skills, reading report cards, talking to teachers in parent-teacher conferences, or helping with homework. (Bercovitz & Porter, 1995). School-focused programs may also include information about health and nutrition or American notions about parenting skills, for example.

Another approach, also aimed primarily at adults, is the notion of participatory curriculum in which the students themselves determine the direction and, thus, the content of their classes. Problem-posing, a technique addressing community issues collaboratively, assumes that teachers are facilitators who do not themselves have answers, but can help to identify resources for solutions that students themselves determine. School issues may or may not be a primary focus of programs where learners themselves identify issues that they wish to explore. The primary goal of participatory education is social transformation through critical reflection and collective action.

Some have argued that these approaches do not have to be in contradiction. There are many programs in which learners critically discuss their own situations as they master the competencies of their choice (Weinstein-Shr & Huizenga, 1996). In classrooms where learner needs are articulated, specific competencies may or may not be of interest to learners, and collective action for change may or may not be the appropriate response to specific learner goals. Therefore, the approach to curriculum design should reflect learner goals.

Another orientation, one that may integrate the previous two, is that of project-based work. With this orientation, learners develop language and literacy skills while they pursue specific non-linguistic goals. For example, Mien women describe photographs from *National Geographic*, creating books about life in Laos for their children (Agard, in press). Producing books, videos, websites, quilts, murals, or other products creates the context for developing and using a wide range of literacy skills while passing knowledge from one generation to another. Planning and executing actions or

events are another type. For example, learners may study the language of a ballot initiative (e.g. Proposition 187) and collectively write a letter to the editor of a local newspaper. Pot luck events or celebrations, intergenerational skits, fund-raising sales, and protest marches all are examples of events that have been planned and enacted by learners within the context of family literacy programs.

What are some promising directions for the future?

One promising trend in family literacy work is that, in effective school-based programs, the task is seen as a reciprocal one of enabling parents to understand and negotiate with schools while providing the means for school personnel to understand the concerns of parents for who English is not a native language. Instead of assigning blame for problems, collaborative solutions are sought.

A second promising trend is the growing recognition that there is more to family and intergenerational literacy than children's school achievement. When the goal is to strengthen families and communities, the literacy resources of elders come into focus, creating many ways of connecting children and adults. Effective efforts are likely to be as diverse as the communities they serve. However, there are certain characteristics that repeatedly arise in promising programs:

1. Planning and instruction begin with inquiry into learners' lives.

Families who have resettled in the United States, whether voluntarily or by forced migration, have had to be extremely resourceful. If refugees had lacked survival strategies, they would not have made it here! Voluntary migrants, too, must mobilize both financial and social resources to manage the enormous transition to another country. It is helpful for program planners to learn about the linguistic and educational resources of any given group, as well as the kind of kinship or social networks that community members use to solve problems. Local leaders, particularly those who are members of immigrant communities, can be an especially valuable source of information in planning programs and designing curricula that take into account learners' resources and needs.

Children and adults can investigate their own language use. During the course of instruction, learners can be invited to document their current practices, while exploring the resources they wish to add to their repertoire.

2. The program addresses needs that learners themselves define.

When asked what was most difficult about raising children in America, several Southeast Asian women answer that their children no longer like their cooking. Concerns that may seem trivial are often codes, or concrete representations of larger, more serious concerns, like losing authority over older children. A program focusing only on early childhood development issues, for example, may miss the clues that parents are most concerned about their relationships with their pre-teens and the imminent dangers of gangs or drugs.

Asking, watching, and listening are essential to learning about the realities of learners' lives. Learner writing, language experience stories, and interviews (collected in English or translated from the native language) are all potential sources of information about the family. Adult learners themselves can provide direction in planning and developing curricula and classroom instruction. In some programs, learners participate directly in classroom and program decisions (e.g. Literacy South in Durham, NC) When learners' needs drive programs, participants' attendance generally rises. In these programs, learners are able to demonstrate success inside the classroom and beyond as they define it in ways that teachers, administrators, and funders can understand (Holt, 1993).

3. The program encourages generations to share knowledge and experience.

Children who understand their own background and culture are more likely to have the self-esteem to learn a second language and culture. Adults whose knowledge and wisdom is valued can support their children in school and elsewhere, and can be helped by their children without having their dignity or their parental role threatened. Programs that support oral history and explore native language and culture strengthen families and communities while teaching them about the new culture.

While adults may have life experience and wisdom, children often have more access to the new language and to new technologies. In the family web project (Hovanesian, in press), adults dictated stories to their children about the family origins, and children helped their parents and grandparents learn to use the computer. Together, the collective effort of these families resulted in family web pages that have been visited by immigrants around the country.

4. Learning communities are fostered both among learners and among practitioners.

In the rush to teach parenting skills, the fact that most immigrant adults come from communities that have been parenting effectively for centuries is sometimes forgotten. Some traditional ways of doing things may continue to work, while other strategies may not work or may be inappropriate in a new setting. While information about American laws and belief systems are invaluable for newcomers, the experiences and guidance of others who already have managed this transition may be the most powerful and helpful source of information about strategies for living through changing circumstances. Learners themselves are often the best resource for solving problems. Effective programs provide opportunities for adults to articulate their concerns, compare their experiences, and work collectively to reflect or act on challenges they are facing.

Practitioners can also benefit from the support of colleagues with whom they can articulate their vision and solve problems. Opportunities to reflect regularly with colleagues create the context for programs and teaching practices to evolve as more is understood about learners. Collaboration with others who have different kinds of knowledge or expertise is also important. Child and adult educators, as well as ethnic leaders or immigrant advocates are natural partners who can learn from one another, stretching their vision through dialogue. These partnerships create the best hope for creating programs that take into account the larger context in which families are struggling, as well as the best approaches to teaching and learning.

Conclusion

There are many sources of inspiration for innovative work in family and intergenerational literacy that can make a difference. With movement in the directions outlined above, it becomes possible to imagine schools that understand and respond to families and communities; families that cooperate with schools toward agreed-upon goals; and generations who find in one another the resources to remember their past, to manage the present, and to take on the future with confidence and joy.

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Guide to the National Partnership for Excellence and Accountability in Teaching (NPEAT)

Willis D. Hawley and Linda Valli

All children need excellent teachers. But those who need outstanding teachers most are children placed at risk because of the economic conditions of their families and communities; racial and ethnic discrimination; limited command of English; and physical, emotional, or mental disabilities (National Commission, 1996).

The National Partnership for Excellence and Accountability in Teaching (NPEAT), which is primarily funded by the U.S. Department of Education's Office of Educational Research and Improvement, seeks to place the improvement of teaching at the center of efforts to improve schools (National Commission, 1996). To this end, NPEAT addresses two central problems that impede the development of systemic reforms to improve the quality of teaching: (1) the absence of agreement about effective strategies for improving teaching among those who significantly influence the capabilities and motivation of teachers and the conditions of teaching, and (2) the discontinuity, inconsistency, and misalignment of policies and practices that influence the quality of teaching across the career continuum of teachers. This Digest describes how NPEAT focuses its attention on the best strategies to attract, prepare, retain, and support teachers who serve the nation's neediest students in urban schools.

The Partnership

Many organizations hold membership in NPEAT, but the policies that give direction to the partnership are set by a Policy Board composed of representatives from:

American Association of Colleges for Teacher Education
American Association of School Administrators
American Council on Education
American Federation of Teachers
Association for Supervision and Curriculum Development
Council for Basic Education
Council for Exceptional Children
Council of Chief State School Officers
Council of the Great City Schools
Education Commission of the States
Education Week
The Holmes Partnership
International Reading Association
National Alliance of Business
National Association for the Education of Young Children
National Association for Equal Opportunity in Higher Education
National Association of Elementary School Principals
National Association of Secondary School Principals
National Association of State Boards of Education
National Board for Professional Teaching Standards
National Commission on Teaching & America's Future
National Conference of State Legislatures
National Council for Teachers of Mathematics
National Council for the Accreditation of Teacher Education
National Education Association
National School Boards Association
National Staff Development Council
New American Schools
Recruiting New Teachers, Inc.
Teachers of English to Speakers of Other Languages

NPEAT Projects and Activities

The work of NPEAT is organized into Policy & Practice Strands that encompass high-promise strategies for improving teaching: Recruitment and Retention, Teacher Preparation, Induction, Continuing Professional Development, and Standards and Assessments. These strands include an interrelated set of activities: the development of research-based consensus around ideas, principles, and promising policies and practices; the dissemination of knowledge and the support of related action by partners and others; the identification of what we need to know more about; and the conduct of relevant research and development that leads, in turn, to usable knowledge.

Recruitment and Retention

NPEAT activities related to recruitment and retention address the following issues: What are the most effective strategies to recruit, admit, and retain students from underrepresented groups and for areas in which there are teacher shortages? What institutional, state, and national policies would change the characteristics of the teaching force? What roles do public schools, community groups, institutions of higher learning, and state policymakers play in obtaining a more talented and diverse population in teaching? What models of recruitment exist in local partnerships and in states that could serve as exemplars for schools and school systems throughout the nation? How can we eliminate the need for emergency certification of unqualified teachers? (Boyer & Baptiste, 1996; Murnane, Singer, Willett, Kemple, & Olsen, 1991; Darling-Hammond & Sclan, 1996; NASBE, 1998)

Teacher Preparation

A second area of work is the development and study of initial teacher preparation programs that ensure that new teachers have the knowledge, skills, and dispositions to effectively teach diverse students. These programs are seen as the mutual responsibility of university liberal arts and education school faculties, and K-12 school faculties where field experiences are undertaken.

Some of the essential questions to which NPEAT is seeking answers are: How can the commitment of colleges and universities to the preparation of teachers be strengthened? Does designing teacher education programs around national standards improve teachers' effectiveness—especially those who work in high-risk schools? How can teacher education candidates be taught to use technology to facilitate student learning? How can colleges and universities be held accountable for the quality of the teachers they prepare? How do the processes and cultures of professional development schools influence teacher and student learning? (Holmes Group, 1990; Roth, 1999)

Induction

Arguably, improving the successful induction of new teachers into the profession would be the single most cost-effective strategy for improving teaching. Investment in sound recruitment strategies and initial preparation programs that draw capable individuals into teaching will be wasted unless schools are structured to make use of new teachers' talents and sustain their commitment. Thus, NPEAT is investigating induction programs for novice teachers that enhance their capabilities and commitments

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to teaching. These include year-long intern or residency programs and various types of mentored learning experiences (Huling-Austin, 1990; Feiman-Nemser & Parker, 1992).

Continuing Professional Development

Professional development may enhance teacher knowledge and motivation. But unless the conditions of work make possible new approaches to teaching, teachers are unlikely to change their classroom practice (Hawley & Rosenholtz, 1985; Little, 1993; Darling-Hammond & McLaughlin, 1995; Fullan, 1994; Sykes & Darling-Hammond, 1999). Therefore, NPEAT focuses attention on how schools can be restructured to simultaneously foster teacher learning and student learning. The fundamental questions asked in this set of activities are: What is the relationship between teacher and student learning? What and how do teachers learn throughout their careers? How can schools be restructured to improve teaching and learning?

Standards and Assessments

New standards for teaching are a promising lever for transforming teacher education and professional development, and ultimately teaching and learning. Standards have the potential to clearly link teacher learning opportunities from teacher preparation programs through career-long education and to ensure that students are taught by teachers who are knowledgeable and competent (Darling-Hammond, Wise, & Klein, 1995; Wilson & Ball, 1996).

NPEAT research and development seeks to guarantee that standards and assessments really measure teachers' effectiveness with students and that new assessments are fair and appropriate. Equally important are NPEAT studies that seek to understand what kinds of learning opportunities teachers need in order to meet these demanding new standards and what kinds of teaching contexts support competent and accomplished teaching.

Facilitating Knowledge-based Action to Improve Teaching

A large part of the reason the nation fails to provide highly qualified teachers for all its children is the misalignment of the principal influences on the teaching profession—including university degree requirements, union contracts, license requirements, certification standards, tenure requirements, public perception of the teacher's work, in-service requirements, salary and reward structures, and leadership practices. Therefore, in all its work, NPEAT focuses on understanding and facilitating effective partnerships that seek to enhance the quality of teaching.

NPEAT engages in several types of activities that encourage and support the implementation of effective policies and practices. The various strategies to foster the use of knowledge to achieve systemic reforms that NPEAT employs include the collaborative ways it designs and conducts research; publications by NPEAT and its partners; workshops, conferences and teleconferences; the development of models of effective practice and learning materials for use in professional development; technical assistance; and the support of knowledge-based collaborative action.

While pursuing these strategies, NPEAT will make extensive use of telecommunications. Persons and organizations interested in the improvement of teaching can participate in a National Dialogue on the Improvement of Teaching through NPEAT's web site (www.npeat.org). The dialogue identifies the characteristics of effective policies and practices, summarizes the relevant research, and provides examples of programs that work and references to sources of support. The National Dialogue and information about all of NPEAT's activities and findings from its research are available on the web site.

Conclusion

NPEAT's goal is to ensure that America will provide all students with their educational birthright: access to competent, caring teachers. NPEAT's work is focused on a set of strategies that hold promise for continuously improving the quality of teaching. Knowledge from research and the wisdom of practice is used to develop consensus about principles and guidelines for the design of improved policy and practices. As NPEAT supports the implementation of effective strategies it also studies variations in their impact. This, in turn, yields new topics for research and strengthens the foundation for the continuous improvement of teaching.

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Mary E. Dilworth, Director
Judy A. Beck, Associate Director
Willis D. Hawley, NPEAT and Linda Valli, University of Maryland (Authors)

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Helping Children Master the Tricks and Avoid the Traps of Standardized Tests

Lucy Calkins, Kate Montgomery, and Donna Santman

Adapted with permission from A Teacher's Guide to Standardized Reading Tests. Knowledge is Power (1998) by Lucy Calkins, Kate Montgomery, and Donna Santman, Portsmouth, New Hampshire: Heinemann.

Introduction

Children can improve and change their test-taking habits if they are taught about their misleading work patterns. Teaching children about the traps they tend to fall into may well be the most powerful, specific preparation teachers can give them for the day of the test. By studying the habits of young test takers, we uncovered some of their common mistakes. This Digest lists some of these mistakes and suggests several teaching strategies that may be useful to teachers who are preparing their class to take standardized tests.

Use the Text to Pick Your Answer

When it comes to choosing an answer, many children are much more likely to turn to their own memories or experiences than to the hard-to-understand text for their answers. This issue becomes even more difficult when the passage is an excerpt from a text with which the students are familiar. Many new reading tests use passages from well-known children's literature, including those stories that have been made into movies. In this case, many students justify their answers by referring to these movies or their memory of hearing the story when they were younger.

While these personal connections are helpful if the student is at a complete loss for an answer, it's essential for children to understand that relying on opinions, memories, or personal experience is not a reliable strategy for finding answers that a test maker has decided are correct. Clearly, many questions asked on the tests require prior knowledge to answer, but the problem comes when students rely exclusively on that prior knowledge and ignore the information presented in the passage. Some things that teachers may wish to do in order to help their students avoid making this mistake include the following:

- Teach students to underline parts of the passage that might be asked in the questions
- Help children develop scavenger-hunt-type lists of things to look for as they read the passages by having them read the questions first
- Teach students to find out how many questions they can hold in their minds as they read the passage
- Show children how to fill in all the answers on each test booklet page before filling in the corresponding bubbles on the answer sheet
- Teach children ways to mark the passage in order to make it easier to go back to find or check specific parts – these include writing key words in the margins and circling or underlining
- Show students how to use an index card to block out distracting print or to act as a placeholder
- Retype familiar or easy text to look as daunting and dense as the test passages to give children confidence and experience in the test format.

Sometimes It's Helpful to Refer to Your Own Life Experiences

In the reading comprehension sections of a reading test, children must find evidence in the passages to support their answers. Yet, there are parts of many reading tests where the only things students can rely on are their own previous experiences. In these sections, students are asked to choose the correct spelling of the underlined word or to choose the word whose meaning is closest to that of the underlined word.

Often students prepare for these sections of the tests by taking practice tests and then going over the answers. However, it is highly unlikely that any of the same words would appear on the actual test. Therefore, teachers may wish to impress upon children the importance of creating a context for the variety of words that may be found on the test by relating those words to their own personal reading experiences. In order to facilitate that thinking process, teachers may wish to help children ask themselves such questions as "Have I seen this word before in a book?" "Where have I heard that before?" or "What words or events usually happen around this word?" while they are answering vocabulary or spelling questions.

Learn to Read the Question

It is always assumed that if children have reading troubles, their wrong answers stem from difficulty reading the passages. However, this is not always the case.

Sometimes, reading the questions, a much less familiar task, can prove to be the greatest reading challenge for the students. This is because questions such as "How was the central problem resolved?" or "Which statement is NOT true about the narrator?", are not the types of questions children are asking themselves and each other about the books they read.

Studying various types of questions can be a helpful practice to future test takers. This can be done by searching through practice tests and making lists of the types of questions. Although the questions will be different on the day of the test, this exercise may familiarize students with the types of questions that are asked on standardized tests.

Choose the Answer to the Question

Sometimes children choose their answer by finding the first answer choice that matches something in the text. Unfortunately, by not considering what the question was actually asking, they are tricked into choosing the wrong answer simply because it may state a fact that was included in the story.

One teaching strategy that can help students avoid this mistake is to present a text with questions in a standardized test format. With a partner, the child should figure out what the different questions are asking, and write down their paraphrased versions. Many times children will be surprised at how different their paraphrasing is from what the question is actually asking. It may be a good practice for teachers to look at the different paraphrasings with the class and discuss which interpretations would help the members of the class and which would lead them astray. This allows students to strengthen their skills at finding the true meaning of the questions.

Risk an Unfamiliar Choice

Frequently, students avoid choosing an answer simply because it contains an unknown word even when they know the other choices are probably wrong. Thus, teachers should advise students not to overlook the possibility that the answer which contains the unfamiliar word may be the correct choice. Teachers often try to teach children a way of narrowing down the answer choices through a process of elimination. Despite the fact that this process can be very helpful, many students eliminate two possibilities and then, from the last two, just sort of pick one. They don't, it seems, try to figure out a reason to choose one over the other. They seem to wrongly assume that the two choices left are equally possible. However, teachers should teach students that thoughtful elimination between the two last possibilities can lead to the correct choice.

Check Your Answers

After the harrowing ordeal of taking a standardized test, the last thing that students usually want to hear coming from their teacher is "Did you check your answers?" Frequently, the biggest reason kids hate checking answers is because they have only one strategy for doing so: opening their test booklets to the first passage and beginning again. To them, checking answers means taking the test again. However, that does not have to be the case. There are a variety of different strategies that students can use for selectively going back through the test and reconsidering answers. One of these strategies is teaching children to only check the problems of which they were unsure. It is unnecessary to return to questions about which students feel fairly confident. Students can keep track of the troublesome questions while they are actually taking the test. They can do this in several different ways: jotting down the numbers of the questions on a separate sheet of paper, circling the numbers in the test booklet, etc. Students should also know that it is okay to take a short break (stretching in their seats, bathroom/drink break) before going back and checking the answers. This will give them a chance to clear their minds a little bit. Most importantly, students should be taught to attempt to check the answers to the troublesome questions using a new strategy so that they may avoid reusing possibly faulty problem-solving methods.

Setting the Tone for Test Day

Although teachers may do their best to prepare their students for standardized tests, every teacher has stories of children dissolving into tears on the day of tests. Even if their feelings aren't so obvious, all children feel the pressure of doing well. Be sure you don't add to the pressure by over reacting to small deeds of misbehavior or by over emphasizing the fact that today is a testing day.

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1-800-328-0272
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Including Students with Disabilities in Large-Scale Testing: Emerging Practices

Mary K. Fitzsimmons
From an Article by Warger,Eavy and Associates

The 1997 Reauthorization of the Individuals with Disabilities Act requires that students with disabilities participate in large-scale assessments and that a statement of individual modifications in the administration of the assessments be included in the student's IEP. In response, most districts and states are in the early stages of developing and implementing assessment models that include all students. A large number are already using testing accommodations and a few are developing alternate assessments. But for the majority of state and local district practitioners, this new mandate is raising questions and causing concerns.

Research and dissemination efforts sponsored by the U.S. Office of Special Education Programs (OSEP) are providing information to address these questions. One information source is the National Center on Educational Outcomes (NCEO) whose major research focus has been on how to increase participation of students with disabilities in large-scale assessments.

NCEO maintains a Web site (http://www.coled.umn.edu/NCEO) and publishes various reports on assessment topics including:

- Self-Study Guide for the Development of Statewide Assessments That Include Students with Disabilities.
- Issues and Considerations in Alternate Assessments.
- Increasing the Participation of Students with Disabilities in State and District Assessments.
- Reporting Educational Results for Students with Disabilities.

Additional OSEP-funded studies address determining appropriate accommodations, alternate assessments, and reporting results.

Appropriate Accommodations

Many states allow for special testing conditions and accommodations, but proper use of accommodations has become a major concern. Plus, accommodation policies vary from district to district and state to state making it almost impossible to compare student performance. There is also great variation in the use of accommodations across disability groups. Accommodations for students with physical or sensory disabilities are routinely approved, which is not always the case for students with cognitive or behavioral difficulties. The following represent a few of the researchers currently working to standardize accommodations' use and fairness:

- Gerald Tindal, a University of Oregon professor, believes that testing accommodations should take into account the learner's needs, the task demands and the purpose of the accommodation. He stresses the need to have in place a sound decision-making process such as curriculum-based measurement (CBM). He has been working with practitioners in Oregon to embed CBM in the IEP process and relate a student's performance as measured by CBM to that attained on large-scale assessments. A pilot group of teachers has been working to consider standards in math and reading for their students, identify benchmarks, determine the appropriate assessments and accommodations, and write these into the IEP. Thus, the IEPs are written to reflect the student's level of mastery.
- Stephen Elliott of the University of Wisconsin-Madison developed the Assessment Accommodations Checklist (AAC), which contains 74 accommodations organized into eight domains (e.g., motivation, scheduling, directions, adaptive technology). Educators can use the AAC to rate the extent to which they think that a particular accommodation will help the student.
- Lynn Fuchs, Professor of Special Education at Vanderbilt University in Tennessee, has funding from OSEP to create standardized methods for determining which accommodations are valid for which students. The aim is to reduce the variability of accommodations across districts and states. To do this, she is developing, validating, and codifying the Dynamic Assessment Tool for Accommodations (DATA).

Alternate Assessments

While still in their infancy, alternate assessments offer promise for ensuring that all students are included fully in the accountability process.

Kentucky's Alternative Portfolio Assessment (KAPA), for example, allows accommodations for students with disabilities that are consistent with the appropriate delivery of instruction for that individual. Examples of learning outcomes include the abilities to communicate effectively, use quantitative or numerical concepts in real-life problems, and effectively use interpersonal skills.

Maryland, a state that has one of the highest participation rates in its statewide assessment system, has recently piloted its alternate

assessment. The Independence Mastery Assessment Program measures outcomes that are life-skills oriented.

Reporting Results

Reporting accurate information on students with disabilities ensures that they are represented in the accountability system. Although there is great variability in both state and local reporting practices, school districts are seeking ways to report the progress of all students in meaningful ways.

The Long Beach, California, Unified School District offers one example of an innovative approach to the reporting issue. With consultation from staff at NCEO, Long Beach educators set out to tie large-scale assessments directly to school effectiveness policies. They also decided to include all of their 5,000 special education students in the assessments.

The district generates two separate assessment reports: one for everyone taking the standard assessment and a separate one for the approximately 300 students with severe disabilities who participate in the district's alternate assessment. Schools are held accountable for both sets of scores. Information is also kept regarding accommodations used by students.

Summary

The 1997 Reauthorization of IDEA stresses the importance of including students with disabilities in all educational reform activities. Special education researchers and practitioners are pioneering efforts to prepare these students to take part in and succeed in large-scale assessments, thus ensuring that the mandate is implemented in the best interests of the students and their families.

For a fuller look at the research discussed in this digest, the reader is referred to *Research Connections*, Spring 1998, published by the ERIC/OSEP Special Project (see front for contact information).

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Digest

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Meeting the National Standards: Now What Do I Do?

Jean Leloup and Robert Ponterio, SUNY Cortland

Standards for Foreign Language Learning: Preparing for the 21st Century (hereafter referred to as *Standards*) was published in 1996. The statement of philosophy from which *Standards* was generated embodies the goals and beliefs of the foreign language (FL) profession.

> Language and communication are at the heart of the human experience. The United States must educate students who are equipped linguistically and culturally to communicate successfully in a pluralistic American society and abroad. This imperative envisions a future in which ALL students will develop and maintain proficiency in English and at least one other language. (*Standards*, 1996, p. 7)

Standards is one of the most far reaching and encompassing documents of the foreign language (FL) profession, yet most foreign language educators are either unaware of it or unclear as to its intent, import, and impact. This digest aims to explain the standards document in general, dispel some misconceptions about it, and discuss its relevance for the classroom FL teacher.

What Are the Standards, Anyway?

Standards is a discipline-specific document that is an out-growth of the long-term national strategy proposed by the President and state governors at their 1989 education summit in Charlottesville, Virginia and delineated in the booklet, *America 2000: An Educational Strategy* (U.S. Dept. of Education, 1991). The strategy was designed to accomplish six national educational goals that have far-reaching consequences for all schools at all levels and for all subject areas. (The entire thrust of this meeting and its resultant document have since been referred to as either "America 2000" or "Goals 2000.") The FL profession has definitely made progress: Foreign language instruction is finally being recognized as a vital part of the national goals and included as a core subject area. Indeed, one of the principal mandates of Goals 2000 is "to improve language instruction at all levels and to facilitate sequential learning."

To realize the goals of America 2000, academic disciplines were expected to delineate national standards for instruction and learning. In 1993, a collaborative effort of the American Council on the Teaching of Foreign Languages, the American Association of Teachers of French, the American Association of Teachers of German, and the American Association of Teachers of Spanish and Portuguese resulted in federal funding, and the National Standards in Foreign Language Education Project was born. A task force of 11 FL teachers, representing the gamut of FL professionals from literature instructors to public classroom teachers to second language acquisition researchers, was formed. Hundreds of additional FL professionals had a chance to provide input and suggestions throughout the many drafts of the *Standards* (Brown & Phillips, 1997; *Standards*, 1996).

The FL standards are essentially content standards that define what students should know and be able to do in FL instruction in a K-12 sequence. Granted, most public school systems in the United States do not have a K-12 FL instructional sequence at this time, but the standards provide a way to focus on a common vision to reach that very goal. In this sense, the standards document is a political one, delineating the goals of the profession and making a case for institutional and instructional change in the way FL programs are conceived on the local, regional, and national levels. It also serves as a means for public relations between FL professionals and administrators, parents, and students by stating content goals at distinct intervals (Grades 4, 8, and 12) for all FL learners.

The standards are not, however, a curriculum guide. They are not meant to dictate local curricula or even assessment. Indeed, evaluation and assessment are to be defined locally: at district, school, and even individual course levels. The assessment becomes, then, the cadre of performance standards by which students are evaluated. Nor are the standards tied to any particular instructional method. To do so would be to limit their applicability, flexibility, and universality. They are instead a statement of what FL education should prepare students to do. Given certain overriding goals of FL education, the standards articulate the essential skills and knowledge language learners need in order to achieve said goals.

Organization of the Standards

The standards are organized around five main goals: *communication, cultures, connections, comparisons,* and *communities*. Eleven standards in total, distributed among these goal categories, are the content standards that ostensibly give FL students "the powerful key to successful communication: *knowing how, when, and why to say what to whom*" (*Standards*, 1996, p. 11). Each standard is accompanied by sample progress indicators for Grades 4, 8, and 12, which reflect student progress in meeting a particular standard but are not standards in and of themselves. The premises of the indicators are that they can be realistically achieved at some level of performance by all students, they can be arrived at through a myriad of instructional modes, and they are measurable or assessable in a variety of ways. The indicators are meant to be interpreted by FL teachers and curriculum developers who will transform them into classroom lessons and activities. The sample progress indicators can also be used to assist in establishing acceptable performance levels for FL learners at the local level.

A final feature of the standards document is an extensive listing of FL lessons that target specific content standards. These examples are called learning scenarios and are included for a number of purposes. First, they provide examples of how classroom practice relates to the standards. Second, they are meant to allow divergent thinking and stimulate creativity in lesson and curriculum design. Third, they are both learner centered and standards driven. Last, they clearly illustrate the interrelationship of the standards and their goals. Many different languages are represented in the scenarios. Future companion documents to the national standards are planned with language-specific examples and themes.

What Does This Mean for Me?

Despite all the attention that the move toward subject-area standards in American education has been receiving in the media due to a certain level of politicalization surrounding them, what matters most to the individual teacher is how the standards may change their classroom. As they are written, the standards can help the teacher communicate with students, parents, and administrators about what is happening in the classroom and why. The inclusion of FLs in the Goals 2000 mandate helps the teacher demonstrate that FLs are a core subject for all students, not to be considered peripheral in the curriculum. Concomitantly, the clear differentiation of national content standards from state and local curriculum frameworks and performance standards, the flexibility built into the standards document itself, and the voluntary nature of the standards implementation can help allay any fear of losing community control of the education process (*Standards*, 1996, 24-25). Although the standards represent expectations of progress that all students will make toward achieving performance goals, the possible levels of proficiency attainable for each goal will still represent a broad range allowing students to excel beyond any minimal expectations. In day to day

teaching, the standards are particularly useful in curriculum design, lesson planning, and assessment.

Curriculum Design. The primary message conveyed by the five C's— communication, cultures, connections, comparisons, communities—is that each of these goal areas is important and has a place in the FL curriculum. Thanks to the profession's longstanding focus on the role of communication and context in language learning and the recognition of the functional and sociolinguistic aspects of language, the goals of the standards are not new to most teachers. The national standards are not a curriculum, but their specific organization can help us analyze our curriculum by looking closely at what we are doing to see to what extent we are already implementing the standards in our classes. Many efforts in this area have been undertaken by teachers around the country (e.g., in Wisconsin, Nebraska, Kentucky) and reported at national and regional FL meetings (Clementi & Sandrock, 1997; Welch, 1997). An efficient and common approach involves beginning with a listing of all activities now used in achieving the current curricular goals and using a table to check off standards that are addressed by these. The result of analysis provides a clear graphical display of standards being met and areas that may be underrepresented in the curriculum, and leads to the development of a better balance in the future. This is not to say that all of the goals are equal or that all of the standards should receive equal weight. Those decisions are up to the teacher, but a better awareness of how much attention is focused on each goal should help in making those decisions.

Lesson Plans. With curricular goals and specific progress indicators in mind, instructional and assessment strategies may be designed to do more to meet the standards criteria in weaker areas of the curriculum. Although examples of activities aligned with the standards are available in learning scenarios published with the standards, the sharing of such materials is one of the best ways teachers can help each other adapt to these criteria. Many groups are working on sharing learning scenarios, but the more we can help each other, the better our chances will be to arrive at a broad implementation of standards-based curricula.

The following example is suggested as an illustration of weaving interdisciplinary lessons, the use of technology, and community resources together to create an exciting and comprehensive project that addresses all of the national standards. The *Aconcagua Project* calls for students to "climb" this famous peak in South America. The project originates in the language class (here obviously Spanish) but spills over into several other disciplines with careful planning and collaboration on the part of the instructors involved. To complete this assignment, the students need to plan the entire expedition from start to finish in order to ensure its success. They will work in groups individually, sharing their information at designated intervals (Standards 1.1 and 1.3). They will collect data from a variety of sources, both traditional and technology based (Standard 1.2). The Aconcagua Official Home Page (http://www.aconcagua.com.ar/aconca.html) will be very helpful for securing much information on the Internet.

Planning the trip will entail everything from getting to the country (airfares, routes) and meals and lodging before the climb, to the entrance fee to the park and mountain, conditions of the climb (both geophysical and physiological), costs incurred by the expedition on-site, selection of the optimal ascent route, and so on. While much of the discussion and planning will take place in the language class, much of the data collection and planning can be reinforced by studying parallel concepts in other disciplines (Standards 3.1 and 3.2). Below are some examples of activities that can be implemented in other subject classes.

Science (Standard 3.1): Students study atmospheric conditions (e.g., humidity, temperatures) as one ascends the mountain; this information will also be helpful in planning what apparel to take on the trip.

Geography (Standards 3.1 and 3.2): Students will need a wide variety of information including maps, latitude and longitude points, geographical location of the country and the peak, and so forth.

Math (Standard 3.1): Many mathematical concepts and functions can be reinforced while gathering necessary information for the expedition: temperatures, heights, pressures, measurement; reading graphs on statistics for climbing (age, sex, etc.).

Spanish (Standards 1.1, 1.2, 2.1, 2.2, 1.3, 4.1, 4.2): vocabulary on weather, numbers, food, nutrition, climbing equipment; planning the final ascent will entail making comparisons of routes to ascend and descend (here students can debate, compare, and contrast, making decisions based on best information presented.

Conclusion

Clearly, the standards have much to say to us as a profession. They were drafted as a guide to inform classroom instruction. They are also a yardstick by which to measure classroom practice and performance. The standards were generated from the basic premise that language and culture are the foundations of communication in the world of today and the 21st century. They are an in-house product in the sense that hundreds of FL teachers were involved in developing and testing them to ensure that *Standards* is a workable and practical document that will meet the needs of the classroom teacher. As we move forward as a profession, the standards can be the unifying thread that connects our curricula, our teaching, and our students' learning. By aligning our instruction with the standards and by sharing our ideas, activities, and learning scenarios with other colleagues, we will strengthen the position of FLs in the national educational agenda, and we will empower our language students to be lifelong learners and users.

Standards for Foreign Language Learning

Communication
Communicate in Languages Other Than English
Standard 1.1: Students engage in conversations, provide and obtain information, express feelings and emotions, and exchange opinions.
Standard 1.2: Students understand and interpret written and spoken language on a variety of topics.
Standard 1.3: Students present information, concepts, and ideas to an audience of listeners or readers on a variety of topics.
Cultures
Gain Knowledge and Understanding of Other Cultures
Standard 2.1: Students demonstrate an understanding of the relationship between the practices and perspectives of the culture studied.
Standard 2.2: Students demonstrate an understanding of the relationship between the products and perspectives of the culture studied.
Connections
Connect with Other Disciplines and Acquire Information.
Standard 3.1: Students reinforce and further their knowledge of other disciplines through the foreign language.
Standard 3.2: Students acquire information and recognize the distinctive viewpoints that are only available through the foreign language and its cultures.
Comparisons
Develop Insight into the Nature of Language and Culture
Standard 4.1: Students demonstrate understanding of the nature of language through comparisons of the language studied and their own.
Standard 4.2: Students demonstrate understanding of the concept of culture through comparisons of the cultures studied and their own.
Communities
Participate in Multilingual Communities at Home & Around the World
Standard 5.1: Students use the language both within and beyond the school setting.
Standard 5.2: Students show evidence of becoming life-long learners by using the language for personal enjoyment and enrichment.

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A Nation Still At Risk

by The Thomas B. Fordham Foundation

This Digest was adapted from "A Nation Still *At Risk", an education manifesto signed by 37 prominent education reformers in April 1998 (See Additional Readings at the end of this Digest.)*

In 1983, the National Commission on Excellence in Education declared the United States *A Nation at Risk*. That citizens' panel admonished the American people that *the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people*. A decade and a half later, the risk posed by inadequate education has changed. Our nation today does not face imminent danger of economic decline or technological inferiority. Yet the state of our children's education is still very far from where it ought to be. Unfortunately, the economic boom times have made many Americans indifferent to poor educational achievement. Despite continuing indicators of inadequacy, and the risk that this poses to our future, much of the public shrugs and says, "Whatever."

The purpose of this digest is to awaken Americans once again to the fact that U.S. schools are still failing our youth and demand that changes be made. Since 1983, over 10 million Americans have reached the 12th grade not even having learned to read at a basic level. In the same period, over 6 million Americans dropped out of high school altogether. The numbers are even bleaker in minority communities. In 1996, 13% of all African Americans aged 16-to-24 were not in school and did not hold a diploma. Seventeen percent of first generation Hispanics had dropped out of high school, including a tragic 44% of Hispanic immigrants in this age group. To be sure, there have been gains during this past 15 years, many of them inspired by the Excellence Commission's clarion call. Dropout rates declined and college attendance rose. More high-school students are enrolling in more challenging academic courses. With more students taking more courses and staying in school longer, it is indeed puzzling that student achievement has remained largely flat and that college remediation rates have risen to unprecedented levels.

The Risk Today

Internationally, U.S. youngsters hold their own at the elementary level but falter in the middle years and drop far behind in high school. We seem to be the only country in the world whose children fall farther behind the longer they stay in school. That is true of our advanced students and our so-called good schools, as well as those in the middle. Remediation is rampant in college, with some 30% of entering freshmen in need of remedial courses in reading, writing and mathematics. Employers report difficulty finding people to hire who have the skills, knowledge, habits, and attitudes they require for technologically sophisticated positions. Though the pay they offer is excellent, the supply of competent U.S.-educated workers is too meager to fill the available jobs.

In the midst of our flourishing economy, we are recreating a dual school system, separate and unequal, almost half a century after it was declared unconstitutional. We face a widening and unacceptable chasm between good schools and bad, between those youngsters who get an adequate education and those who emerge from school barely able to read and write. Poor and minority children usually go to worse schools, have less expected of them, are taught by less knowledgeable teachers, and have the least power to alter bad situations.

If we continue to sustain this chasm between the educational haves and have-nots, our nation will face cultural, moral and civic peril. During the past 30 years, we have witnessed a cheapening and coarsening of many facets of our lives. We see it, among other places, in the squalid fare on television and in the movies. Obviously the school is not primarily responsible for this degradation of culture. But we should be able to rely on our schools to counter the worst aspects of popular culture, to fortify students with standards, judgment and character.

Delusion and Indifference

Regrettably, some educators and commentators have responded to the persistence of mediocre performance by engaging in denial, self-delusion, and blame shifting. Instead of acknowledging that there are real and urgent problems, they deny that there are any problems at all. Broad hints are dropped that, if there is a problem, it's confined to other people's children in other communities. Then, of course, there is the fantasy that America's education crisis is a fraud, something invented by enemies of public schools. And there is the worrisome conviction of millions of parents that, whatever may be ailing U.S. education in general, "my kid's school is OK."

Now is no time for complacency. Such illusions and denials endanger the nation's future and the future of today's children. Good education has become absolutely indispensable for economic success, both for individuals and for American society. Good education is the great equalizer of American society. Horace Mann termed it the "balance wheel of the social machinery," and that is even more valid now. As we become more of a meritocracy the quality of one's education matters more. That creates both unprecedented opportunities for those who once would have found the door barred – and huge new hurdles for those burdened by inferior education. America today faces a profound test of its commitment to equal educational opportunity. This is a test of whether we truly intend to educate all our children or merely keep everyone in school for a certain number of years; of whether we will settle for low levels of performance by most youngsters and excellence from only an elite few.

The Real Issue is Power

The Excellence Commission had the right diagnosis but was vague as to the cure. The commissioners trusted that good advice would be followed, that the system would somehow fix itself, and that top-down reforms would suffice. They spoke of "reforming our educational system in fundamental ways." But they did not offer a political or structural-change strategy to turn these reforms into reality. They underestimated, too, the resilience of the status quo and the strength of the interests wedded to it. The problem was not that the Excellence Commission had to content itself with words. In fact, its stirring prose performed an important service. No, the problem was that the Commission took the old ground rules for granted. In urging the education system to do more and better, it assumed that the system had the capacity and the will to change.

Alas, this was not true. Power over our education system has been increasingly concentrated in the hands of a few who don't really want things to change, not substantially, not in ways that would really matter. The education system's power brokers responded to the commission, but only a little. The Commission asked for a yard, and the "stakeholders" gave an inch. Hence much of *A Nation At Risk*'s wise counsel went unheeded, and its sense of urgency has ebbed.

Today we understand that vast institutions don't change just because they should – especially when they enjoy monopolies. They change only when they must, only when their survival demands it. In

other parts of American life, stodgy, self-interested monopolies are not tolerated. They have been busted up and alternatives created as we have realized that large bureaucratic structures are inherently inefficient and unproductive. The private sector figured this out decades ago. The countries of the former Soviet empire are grasping it. Even our federal government is trying to "reinvent" itself around principles of competition and choice. President Clinton has declared that "the era of big government is over." It should now be clear to all that the era of big government monopoly of public education needs to end as well.

The fortunate among us continue to thrive within and around the existing education system, having learned how to use it, to bend its rules and to sidestep its limitations. The well-to-do and powerful know how to coexist with the system, even to exploit it for the benefit of their children. They supplement it. They move in search of the best it has to offer. They pay for alternatives. But millions of Americans – mainly the children of the poor and minorities – don't enjoy these options. They are stuck with what "the system" dishes out to them, and all too often they are stuck with the least qualified teachers, the most rigid bureaucratic structures, the fewest choices and the shoddiest quality. Those parents who yearn for something better for their children lack the power to make it happen. They lack the power to shape their own lives and those of their children.

The Next Civil Rights Frontier

Equal educational opportunity is the next great civil rights issue. We refer to the true equality of opportunity that results from providing every child with a first-rate primary and secondary education, and to the development of human potential that comes from meeting intellectual, social, and spiritual challenges. The educational gaps between advantaged and disadvantaged students are huge, handicapping poor children in their pursuit of higher education, good jobs, and a better life. In today's schools, far too many disadvantaged and minority students are not being challenged. Far too many are left to fend for themselves when they need instruction and direction from highly qualified teachers. Far too many are passed from grade to grade, left to sink or swim. Far too many are advanced without ever learning how to read, though proven methods of teaching reading are now well-known. They are given shoddy imitations of real academic content, today's equivalent of Jim Crow math and back-of-the-bus science.

We have some excellent schools– we obviously know how to create them – and yet we offer an excellent education only to some children. And that bleak truth is joined to another: only some families have the power to shape their children's education. This reality can only be altered by shifting power away from the system. That is why education has become a civil-rights issue. If the system gets to decide whether you will receive it or not, it's not a right. It's only a right when it belongs to you and you have the power to exercise it as you see fit.

Strategies for Change

There should be two main renewal strategies, working in tandem:

- *Standards, assessments and accountability*. Every student, school and district must be expected to meet high standards of learning. Parents must be fully informed about the progress of their child and their child's school. District and state officials must reward success and have the capacity – and the obligation – to intervene in cases of failure.

- *Pluralism, competition and choice*. We must be as open to alternatives in the delivery of education as we are firm about the knowledge and skills being delivered. Families and communities have different tastes and priorities, and educators have different strengths and passions. It is madness to continue acting as if one school model fits every situation – and it is a sin to make a child attend a bad school if there's a better one across the street.

Hope for the Next American Century

Good things are already happening here and there. Charter schools are proliferating. Privately managed public schools have long waiting lists. Choices are spreading. Standards are being written and rewritten. Changes are being made. However, they are still exceptions. We must never again assume that the education system will respond to good advice. It will change only when power relationships change, particularly when all parents gain the power to decide where their children go to school.

The stakes could not be higher. What is at stake is America's ability to provide all its daughters and sons with necessary skills and knowledge, with environments for learning that are safe for children and teachers, with schools in which every teacher is excellent and learning is central. What is at stake is parents' confidence that their children's future will be bright thanks to the excellent education that they are getting; taxpayers' confidence that the money they are spending on public education is well spent; employers' confidence that the typical graduate of a typical U.S. high school will be ready for the workplace; and our citizens' confidence that American education is among the best in the world.

But even more is at stake than our future prosperity. Despite this country's mostly admirable utilitarianism when it comes to education, good education is not just about readiness. Test scores are important, but so are standards and excellence in our society. The decisions we make about education are really decisions about the kind of country we want to be; the sort of society in which we want to raise our children, the future we want them to have; and even – and perhaps especially – about the content of their character and the architecture of their souls. In the last decade of this American Century, we must not be content with anything less than the best for all the children.

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2805 EAST TENTH STREET • SUITE 120
INDIANA UNIVERSITY
BLOOMINGTON, INDIANA 47408
812-855-3838 • 800-266-3815

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The National Voluntary Content Standards in Economics

By Phillip J. VanFossen

Students in today's classrooms face a wide range of economic decisions. If they would be wise consumers, prudent savers, and knowledgeable investors, they need pertinent knowledge and skills. So the school curriculum should help facilitate the acquisition of basic economic concepts and decision-making skills. Given this rationale, the National Council on Economic Education (NCEE) developed the *Voluntary National Content Standards in Economics* (NCEE 1997) for American students in kindergarten through twelfth grade.

Impetus for the *National Voluntary Content Standards in Economics*. Economics has been a late entry into the national content standards field. The late appearance of economics in the national standards field is due, in part, to the existence of an implicit set of content standards found in the various iterations of the National Council on Economic Education's *Framework for Teaching the Basic Concepts* (Saunders and Gilliard 1995). The *Framework* document—in publication in various forms for nearly twenty years—outlined a concept-based approach to economic literacy and focused on development of twenty-one basic economic concepts from scarcity and markets to international trade and economic stability. Because the *Framework* document was a collection of implicit concept understandings, however, many economic educators believed a set of standards based on principles of economics was unnecessary.

Furthermore, economics has tended to be neglected by social studies educators. Despite its importance in education for democratic citizenship (Miller 1988, 4) and evidence that students who have had a discrete, single semester high school course in economics demonstrate significantly greater economic knowledge than students without such a course (Walstad and Soper 1991), many schools have omitted economics from the curriculum. The schools that have chosen to teach economics often use an infusion approach, which includes cursory treatment of economics concepts within other social studies courses, such as U.S. history (Meszaros 1997).

With the inclusion of economics as a core subject in the *Goals 2000: Educate America Act* in 1994, however, it became increasingly clear to the National Council on Economic Education (NCEE) that a set of explicit content standards needed to be developed. It was in response to these issues, and concerns about the *Framework* document, that led the NCEE to convene a coalition of groups interested in developing standards in economics.

Overview of the *Voluntary National Content Standards in Economics*. The NCEE's *Voluntary National Content Standards in Economics* (hereafter, *Standards*) were developed to guide school districts, curriculum developers, and ultimately teachers in determining what content in economics should be taught as well as when it should be taught (Meszaros 1997, 324). The standards document outlined twenty content standards drawn from widely agreed upon principles of economics that constituted the most important and enduring knowledge in the discipline. Each standard included a statement of an "essential principle of economics that an economically literate student should know" and a statement "of what the student should be able to do with the knowledge upon graduating from high school" (Meszaros and Siegfried 1997, vii).

Each of the twenty standards included a lucid rationale for that standard's inclusion written in language that was relatively jargon-free. The *Standards* also included a set of "benchmarks"—at the fourth, eighth, and twelfth grade level—for each of the twenty standards that focused on the application of economic knowledge and the development of economic skills. It was the inclusion of these outcome-based benchmarks that differentiated these *Standards* from others in the social studies field.

The *Standards* document cross-referenced each of the twenty standards and their associated benchmarks with existing NCEE curriculum materials and teaching guides. Thus, a teacher could use the *Standards* document to identify and access teaching materials designed specifically for developing the economic knowledge associated with a particular standard.

Content Standard 8. To illustrate the features of the *Standards* described above, let us examine *Content Standard 8* (NCEE 1997, 15). The standard states: *"Students will understand that:* Prices send signals and provide incentives to buyers and sellers. When supply or demand changes, market prices adjust, affecting incentives. *Students will be able to use this knowledge to:* Predict how prices change when the number of buyers or sellers in a market changes and explain how the incentives facing individual buyers and sellers are affected."

The *Standards* document provides benchmark statements for each of grades four, eight, and twelve; due to space limitations, only a sample of the grade eight benchmarks are provided here. *"At the completion of* ***Grade 8****, students will know the Grade 4 benchmarks for this standard and also that:* 1. An increase in the price of a good or service encourages people to look for substitutes, causing the quantity demanded to decrease, and vice versa. This relationship between price and quantity demanded, known as the law of demand, exists as long as other factors influencing demand do not change." (Three other Grade 8 benchmark statements follow.)

Phillip J. VanFossen is an Assistant Professor of Social Studies Education at Purdue University. He is also the Assistant Director of the Purdue University Center for Economic Education and has conducted research, written curriculum, and conducted teacher education on a wide variety of topics in economic education.

"*At the completion of Grade 8, students will use this knowledge to:* 1. Survey students in other classes at school regarding how many glasses of orange juice students would be willing and able to buy at various prices. Analyze the data to show the relationship between price and quantity demanded. Identify substitutes students use when the price is higher." (Three other Grade 8 benchmark statements follow.)

The *Standards* document also identifies five lesson plans from three different NCEE publications which might be used to teach for the *Content Standard Eight* benchmarks described above. Readers who would like more information about the twenty content standards and their associated benchmarks can log on to the NCEE website <http://www.economicsamerica.org/nctext.html>.

Lack of Economics in Other Social Studies Standards. Two of the authors of the *Standards* document argued that one of the most important and practical reasons for developing the *Standards* lay in the poor treatment of economic concepts found in standards for other social studies disciplines: "[V]oluntary national standards increase the probability that economics is included in the school curricula" (Siegfried and Meszaros 1997, 140). Indeed, Buckles and Watts (1998) conducted a content analysis of the national standards documents in history, geography, civics and government, and social studies and found serious gaps in the economic content coverage of each. Buckles and Watts (1998, 165) found "few errors of commission but many major omissions, which demonstrate the need for a separate economics course." Buckles and Watts also pointed to an almost overt bias in these standards documents toward "wide-ranging government intervention and planning" and "a general failure to recognize the range and efficiency of market functions." Buckles and Watts (1998, 166) concluded that the development of the *Voluntary National Content Standards in Economics* represented a unique opportunity to go beyond the treatment of important economic concepts in "broad, sweeping brush strokes" and "to reduce competition for classroom time" by concentrating economics coverage in a discrete economics course.

Conclusion. The release of the *Voluntary National Content Standards in Economics* represented an integral and important step in the development of economic literacy in the United States. With publication of the *Standards* document, the National Council on Economic Education has responded to the call for standards-based reform first sounded with *A Nation at Risk* (National Commission on Excellence in Education, 1983). In fact, *A Nation at Risk* pointed specifically to the need to prepare students to compete in the global economy of the twenty-first century. To achieve this goal, the United States needed to establish world class standards in many disciplines, including economics. As Meszaros and Engstrom (1998, 12) noted, recent "emphasis on standards-based instruction in core disciplines means, for many, the introduction of new content" in economics, and the *Voluntary National Content Standards in Economics* will "provide the guidance teachers need" to develop and carry out successful instruction in economics.

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Performance Contracts for Administrators

by Elizabeth Hertling

In the business world, CEOs are often paid on the basis of their performance—a bonus if profits increase, a decrease for flagging financial results. Increasingly, school districts are adopting or contemplating the use of performance contracts (also known as pay-for-performance) as a way of holding administrators accountable. While school administrators have always been held accountable for their performance, the practice of linking pay to indicators such as student achievement has been rare. However, pay-for-performance is now in place in many districts nationwide.

The increased interest in performance contracts coincides with demands for greater accountability. This pressure is coupled with an increased emphasis in state and national school reform on concrete results of progress such as student achievement (Graves 1995). For some superintendents, putting their salary on the line is one way to demonstrate that they are taking their job seriously. Tying pay to performance makes the issue of accountability more palpable, some suggest.

What Are Performance Contracts?

Performance contracts are agreements between an administrator (predominantly superintendents) and the school board that link the administrator's pay to indicators of job performance. Most commonly, performance contracts include bonuses for a job well done, and, less often, salary decreases for poor performance. *The American School Board Journal* and George Mason University conducted a nationwide survey of superintendents and school board members on the issue of performance contracts. Survey results revealed that while the majority of respondents (67 percent of board members and 63 percent of superintendents) believed superintendents' salaries should increase with improved district performance, only 44 percent of board members and 34 percent of superintendents believed there should be a decrease in salary for poor performance (Bushweller 1997).

Philadelphia Superintendent David W. Hornbeck is one administrator who requested that his pay be linked to his performance, as well as to the performance of the district's 217,000 students. Half of Hornbeck's evaluation is based on student test scores and the other half is based on an examination of factors such as improving school attendance and graduation rates and increasing the number of students who have health insurance. If Hornbeck meets his goals, he earns a bonus of up to 10 percent of his base pay. However, if the district's performance is unimpressive, then Hornbeck could face a reduction in salary of up to 5 percent (Bushweller). Hornbeck's performance contract is just one example out of many diverse and highly individualized contracts.

What Indicators Should Be Used to Evaluate Administrators' Performance?

Even among supporters of performance contracts, there is little consensus regarding what indicators should be used in administrator evaluations. While student test scores are the most commonly used indicator, they are also the most controversial.

Those that support the inclusion of student achievement in performance contracts argue that improved student performance is the goal of every superintendent, as well as a high priority among parents and the public. Using test scores as an indicator of performance, supporters contend, will result in increased attention to student achievement and will organize schools around helping students achieve standards (Graves).

Others disagree, characterizing test scores as biased. "Test scores can be manipulated in lots of ways," according to Bill Graham, Palm Beach County school board member. "It's an oversimplified measure" (Bushweller).

Some argue that when student performance is linked to pay, superintendents will place undue pressure on teachers to "teach to the test" and ignore or give cursory attention to material not covered on the exam (Bushweller). Similarly, other critics contend that use of student test scores as an indicator creates the danger that administrators will be less attentive to other issues affecting the school district (Graves).

Many believe that if student test scores are included as a measure of superintendent performance, they should not be the sole indicator. Other performance indicators may include demonstrating budgetary acuity, improving school safety, offering staff development opportunities, designing a challenging curriculum, maximizing parent and community involvement in schools, and improving student attendance and graduation rates.

Why Are Administrators Offered Performance Contracts?

Should a superintendent's salary be tied to the district's performance? This question fuels considerable controversy. Many believe superintendents should not take the credit—or the blame—for work that is the result of the efforts of many people. Others assert that administrators strongly influence the performance of the district as a whole (Bushweller).

Some ask, Why are administrators typically offered performance contracts even though teachers and other staff members are not? The demanding nature of the superintendent's role—long hours, ever-changing demands, endless challenges and problems—is cited as part of the rationale (Lafee 1999). In addition, pay-for-performance contracts help in

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the recruitment and retention of talented professionals at a time when the pool of qualified candidates is small, and effective leaders are aggressively recruited to work in the private sector as CEOs of educational organizations (Freeston 1999, Johnson 1998).

Some perceive establishing performance contracts for administrators as the first step toward creating a performance-based pay system for all employees. Superintendents are just setting the example, and paving the way for principals and teachers (Graves).

However, many are concerned that performance contracts could unfairly hold administrators accountable for factors beyond their control. "Administrators cannot fully control the complex web of factors—such as teacher quality, home support, parental involvement, class size—that affects learning," Graves points out. Murray and Murray (1999) argue that superintendents are not granted tenure, and should be given more job security, not added pressures. They state, "Our future educational systems cannot afford to be led by administrators who are afraid for their jobs."

What Are the Potential Benefits of Performance Contracts?

Supporters believe that pay-for-performance contracts create a set of clearly defined goals for the district to focus on. Instead of blindly embracing one reform after another, districts can concentrate their efforts on improving specific issues. "Performance incentives set the destination and provide educators with a road map to get there," state Murphy and Pimentel (1996).

An additional potential benefit of performance contracts is a detailed, feedback-oriented evaluation system. The standard checklist evaluation is unsatisfactory and the system of pay unfair, Murphy and Pimentel argue. "Staff members... get raises for the passage of time, for acquiring extra degrees.... Job performance is irrelevant." In contrast, performance contracts provide a detailed system of evaluation that rewards administrators for accomplishing goals (Murphy and Pimentel).

Paige, Sclafani, and Jimenez (1998) address another dimension that is sometimes integrated into performance contracts. Performance contracts in the Houston Independent School District allow the school board to buy out the remainder of a superintendent's contract if his or her job performance is unsatisfactory. This can save the district considerable time and money that would be involved in traditional dismissal.

Other supporters contend that performance contracts are not really about money, but are instead a symbolic demonstration of accountability. Most superintendents and board members agree that performance bonuses should be capped below 10 percent of the base salary. According to Philadelphia Superintendent Hornbeck, "It's not the money for me.... [Pay-for-performance] is a symbol that we're deeply committed to a hard-edged accountability system that will hold my feet up to the fire" (Bushweller). Performance contracts are viewed by some as a way to establish a new performance-based culture in education that rewards improvement and innovation (Lafee).

What Do the Critics Say about Performance Contracts?

Along with the potential benefits of pay-for-performance contracts come potential problems. Some worry that administrators will not be given the resources necessary to achieve their goals (Richardson 1994). Murphy and Pimentel caution that performance contracts should provide administrators with a support system that gives them a chance to improve before their salary is reduced. They argue that a performance contract should provide resources and support as well as assessments and standards. Failing to do so, they contend, is "like taking the temperature of a sick patient on a regular basis and never providing treatment. It becomes all diagnosis and no cure" (Murphy and Pimentel).

Other critics argue that if it takes the lure of a larger paycheck to motivate a superintendent to improve job performance, then perhaps the real problem cannot be solved by a contract. Ken Baird, a trustee with the Hanford (California) Elementary School District, argues that if performance contracts are necessary to improve district and student performance, then the superintendent either has misplaced values and is not focused on student welfare, or is not being paid enough in the first place (Lafee).

The American School Board Journal and George Mason University survey found that 62 percent of superintendents do not believe that pay-for-performance contracts will help improve student achievement—the main indicator that many contracts focus on (Bushweller). After all, opponents argue, superintendents are not directly involved with teaching.

There are potential morale problems involved with performance contracts. Some believe rewarding superintendents for better test scores sends the wrong message to teachers and principals who are involved in the "front-line work" (Lafee). In addition, some fear that superintendents, to enhance their own performance, could place "unreasonable" pressure on teachers and principals.

Clearly, the issue of performance contracts for administrators is controversial. Gray and Brown (1989) argue that "in many ways, the education system is most appropriate as an institutional measure of how effective pay for performance can be." However, no one model of performance contracts can guarantee that districts will produce results. Instead, school boards and superintendents must work together to produce a contract that not only defines the district's priorities, but offers the necessary support to complete the job.

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Should Students Be Tracked In Math Or Science?

David L. Haury & Linda A. Milbourne

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There seems no simple answer to this straightforward question; the answer depends on who you ask and what learning outcomes are considered most important. Studies focusing on student achievement seem to bear different results than studies focusing on equity issues, and in both cases there are questions about the educational significance of the findings. Though many researchers and educators consider the practice outdated, or even harmful to some students, many parents and teachers strongly endorse tracking. Here we will try to sort out the issues, and then suggest that the answer to whether children should be tracked in math or science is neither "yes" nor "no."

First, we differentiate tracking from ability grouping. Within a particular class, teachers often form reading groups or math groups on the basis of ability; this is an instructional management practice that enables teachers to more effectively attend to the individual needs of students. Students can move from group to group as they progress, and the whole class receives the same basic instruction. By tracking, we are referring to the practice of separating students into different courses or course sequences ("tracks") based on their level of achievement or proficiency as measured by some set of tests or course grades. This practice has been common in the United States throughout the 20th century, and even in schools where there is no formal system of tracking, the higher achieving, college-bound students take different classes—honors classes or Advanced Placement classes—than other students. By 8th grade, over two-thirds of U.S. students are grouped into differentiated math courses (Mullis, 1991).

Many educators began questioning the practice of tracking in the 1970s when studies began to show that minority and low-income students were over-represented in the lower tracks where they receive less challenging instruction from less qualified teachers (Oakes, 1990). On the basis of results from many separate studies, some have argued that students of all ability levels do no better in tracked classes than in classes of mixed ability (Slavin, 1990). These findings prompted many schools to abolish tracking.

More recent findings, however, have caused some educators to take a more cautionary approach. In one nationwide study it was found that scores for students formerly in the lower tracks did improve when the students were moved to mixed-ability groupings, but the scores of average and higher-achieving students decreased somewhat (Argys, Brewer, & Rees, 1996). The reverse effect had been documented earlier (Gamoran, 1987); tracking boosted achievement among students in the academic track, but the gains were offset by the losses experienced by students placed in the lower track. Gamoran also found that the difference in achievement between students in the upper and lower tracks was even greater than the difference between those who stayed in school and those who dropped out. One outcome of tracking, it seems, is a widening of the gap between high achievers and low achievers.

In attempting to account for the increased gap, Gamoran (1995) found that questioning patterns differ significantly in honors, regular, and remedial classes, indicating differences in the way students and teachers interact in those classrooms. Indeed, teachers in the academic tracks tend to place more emphasis on reasoning and inquiry skills than do teachers of classes in the other tracks. Students in the lower tracks also spend more time reading textbooks and completing worksheets while students in the upper tracks are more likely to participate in hands-on inquiry and write about their reasoning in solving mathematics problems. These differences in the learning environments of remedial, regular, and honors courses may account in part for the findings of Madigan (1997). In exploring patterns of science course taking, science proficiency levels, and demographic variables, he found that "the most consistent pattern seems to be that what science courses students take in high school is more related to increases in science proficiency level than the number of science courses" (p. 12). Also, math and science courses with higher proportions of minority students are more often designated as "low-ability" courses than are courses with lower proportions of minority students (National Science Foundation, 1996). Among 10th graders in 1990, Black, Hispanic, and Native American students were less likely than other 10th graders to be in an academic track (Peng & Hill, 1995) where science and math are emphasized (See Figure 1). When this placement pattern is compared to the expectations of 8th graders (See Figure 2) and the distribution of 8th graders in academic math courses (See Figure 3), one has to wonder how early children are deciding whether they are capable of advanced studies and how much influence the practice of tracking, particularly in math, is having on the perceptions.

Figure 1. Tenth Graders in Academic Track

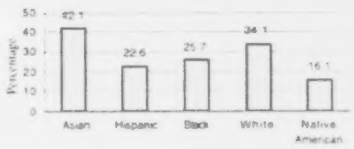


Figure 2. Eighth Graders Expecting to be in an Academic Program

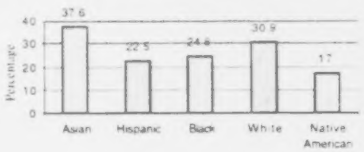
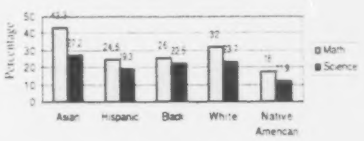


Figure 3. Eighth Graders Tracked in Math and Science



Note. All figures were constructed from data presented in National Science Foundation. (1996). *Women, Minorities, and Persons with Disabilities in Science and Engineering: 1996* (NSF 96-311). Arlington, VA: Author. (Available online at *http://www.nsf.gov/sbe/srs/nsf96311/start.htm*)

It is this apparent connection between demographic grouping (minorities, low-income students) and so-called ability grouping that is most troublesome. There have long been concerns about the underrepresentation of some minority groups in math and science, so are we exacerbating the problem by continuing an educational tradition that has, at best, a marginal benefit for a small group of students? Indeed, Oakes (1990) has said, "while not all students have the interests or aptitude to become scientists or mathematicians, the disparities for African-American and Hispanic minorities and the poor are so great that considerable science and mathematics talent is undoubtedly being lost from these groups" (p. 2). So, it seems the supposed "ability-grouping" tradition in math is, in effect, also a sorting process with unsettling social consequences.

In attempting to place these findings in a broader context, it is worth considering the general levels of proficiency in mathematics among high school seniors as measured by the National Assessment of Educational Progress (Mullis, 1991). Though students in academic programs, with plans to attend college, performed significantly higher in mathematical achievement than students in general and vocational programs, their average was barely above the level required to successfully understand material introduced by the 7th grade. Likewise, results from the Third International Science and Mathematics Study (see online at *http://nces.ed.gov/timss/*) showed U.S. 12th graders scoring below the international average, and among the lowest of the 21 participating nations. The mathematics assessment represented a seventh-grade level curriculum for most participating nations. So, even among the best students in higher-performing schools, relatively few seem prepared for advanced mathematics, and U.S. students in general do not perform at an advanced level compared to students of other nations. These results do not present a very strong case for continuing existing practices.

One of the problems in attempting to make a decisive stand on the issue of tracking is the array of conflicting results from individual studies; despite all the debate over the issue of tracking, there has been no rigorous, large-scale study to provide a definitive accounting of the costs and benefits of tracking. Until such a study is conducted, the best we can do is decide what outcomes are most important to us, and use the most relevant findings to make local decisions. Some say (Loveless, 1999) that "detracking" is counterproductive, that it will most hurt those it is intended to help. The gap between high and low achievers will indeed narrow under mixed-ability grouping, because the high- and average-track students will likely achieve less, but the lower track students will not likely achieve more. Also, parents of high-ability students will likely transfer them out of schools that abolish tracking, or they will find other means to nurture higher achievement. It also seems that tracking does not necessarily have the same effects in all math courses (Epstein & MacIver, 1992); while lower achieving students were found to benefit from mixed-ability grouping in some math survey courses, tracking seemed to benefit all students some tracked algebra classes.

So, here is our thinking. U.S. students in general do not leave our schools particularly well prepared in mathematics; the traditional practices that so many cherish do not seem to be serving us well. Given the evidence that any marginal benefits gained from tracking by higher-achieving students come at the cost of increased barriers to lower-achieving students, the continuation of tracking seems unwarranted. If you factor in the potential benefit of using Internet resources (see Q&A article) to help students manage some of their own learning, higher achieving students would likely be just as well served by having differentiated assignments within mixed-ability classes. So, should students be tracked in math and science? For most students, the answer is clearly no; for the others, tracking has a marginal effect, but there are alternative instructional strategies that may hold even more promise.

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Statewide Assessment Programs: Policies and Practices for the Inclusion of Limited English Proficient Students

Charlene Rivera, Carolyn Vincent
The George Washington University
Center for Equity and Excellence in Education

Anne Hafner, California State University, Los Angeles

Mark LaCelle-Peterson, State University of New York, Geneseo

The standards-based educational reform initiatives of the 1990s call for assessment innovations in support of high standards. The move to standards requires consideration of how assessments, both those currently used and those that states and school districts are currently developing, will enable all students, including LEP students, to demonstrate what they know and can do (LaCelle-Peterson & Rivera, 1994).

The assessment of LEP students' educational progress has long posed a dilemma for state departments of education, which generally use state assessment data to report student achievement. LEP students have typically been either exempted from state assessments or included inappropriately. Because kindergarten through twelfth grade students whose first language is not English constitute a large and growing segment of the U.S. population (Waggoner, 1995), it is critical that state education departments be able to monitor and report on the academic progress of all students, including LEP students, through statewide assessment programs.

To document state assessment policies and to develop policy recommendations, The George Washington University (GW) Center for Equity and Excellence in Education (CEEE) surveyed state assessment directors in 1994[1]. The GW/CEEE survey, *Policies and Practices, 1993-1994 Statewide Assessment Programs: Participation of Limited English Proficient Students,* was sent to all state assessment directors and was augmented with relevant data regularly collected through the CCSSO/NCREL annual state directors' assessment survey (Bond, van der Ploeg, and Braskamp, 1995).

Survey data from the fifty states and the District of Columbia were aggregated and analyzed to examine state policy/practice questions related to (1) the nature and extent of statewide assessment programs, (2) the extent to which LEP students are included in statewide assessment programs, (3) the extent to which individual state assessments are modified to include LEP students, and (4) the extent to which state assessments are used for accountability purposes.

Context of the Study

Although a federal definition of limited English proficiency exists (see Improving America's Schools Act, Title VII, Part E, Sec. 7501 (8)), there is no common operational definition used by states to identify LEP students. The variation among states in the criteria and instruments used means, in effect, that a student *could* be considered LEP in one state but *not* in another. In the school year 1993-94, when the GW/CEEE survey was conducted, 3,037,922 LEP students were identified out of a total of 45,443,389 students enrolled in U.S. public schools in the 50 states and the District of Columbia (Donly, Henderson, & Strang, 1995).

Response to the GW/CEEE State Directors Survey

Fifty states and the District of Columbia responded to the survey. In 45 of the states (88%), the directors of assessment or a designated person in the assessment office completed the survey. Six of the states (12%) delegated completion of the survey to the state Title VII (bilingual education) director. New Hampshire provided partial data.

Findings

The nature and extent of statewide assessment programs

Forty-eight states, including the District of Columbia, reported using 117 assessment programs (an average of about 2.3 assessment programs per state), covering a range of grades and subjects. Minnesota, Nebraska, and Wyoming were the only states that reported not conducting statewide assessment programs in 1993-1994. Iowa and Montana reported that they permit local district choice of assessment instruments, although student achievement data are compiled and reported by the state.

The extent to which LEP students are included in statewide assessment programs

Forty-five states indicated including some or all LEP students in at least one statewide assessment program, although only 15 (33%) reported the actual number of LEP students assessed.

Of the 48 states with statewide assessment programs, 44 reported allowing exemptions for LEP students on at least one statewide assessment. The most frequently reported criteria for exempting LEP students from statewide assessments in all states are shown in Table 1.

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Table 1—Criteria used by states to exempt LEP students

Exemption Criterion	States reporting each exemption criterion (N=44)	
	Number	% of total
English language proficiency level	27	61
Time in U.S. or school district	20	45
Teacher/administrator recommendations	16	36
Special program participation	15	34

The extent to which individual state assessments are modified to include LEP students

As shown in Table 2, 27 states (52%) reported that they allowed test modifications for LEP students on at least one statewide assessment. Four states—Arizona, Hawaii, New Mexico, and New York—reported developing, translating or using commercially available instruments for LEP students in languages other than English. California and Texas reported piloting statewide assessment programs in a language other than English[2].

Table 2—Most frequent test modifications reported by states

Type of modification	No. of states using (N=27)	% of total
Extra time	22	81
Small group administration	20	74
Flexible scheduling	17	63
Simplified directions in English	15	56
Use of dictionaries or word lists	14	52

The extent to which state assessments are used for accountability purposes

Seventeen states, about one-third, reported having a policy requiring students to pass a high school graduation test to receive a standard diploma. These states are Alabama, Florida, Georgia, Hawaii, Louisiana, Maryland, Mississippi, Nevada, New Jersey, New Mexico, New York, North Carolina, Ohio, South Carolina, Tennessee, Texas, and Virginia. Eleven of these states (65%) permit a range of modifications in statewide assessment instruments. Four of the states reported having test alternatives to the high school graduation test. New Mexico and New Jersey reported permitting the use of alternative assessments designed for non-native English speakers. Hawaii and New York reported allowing alternative tests (not specifically targeted to LEP students) for all students. Two states—New Mexico and New York—provided versions of the required high school graduation test in one or more non-English languages. Texas reported that it was developing a Spanish language version of the statewide assessment program for the lower grade levels; however, no plan is in place to develop a Spanish language version of the test required for high school graduation.

Conclusions

The findings provide insights into overall trends in state policies for including LEP students in state assessment programs and suggest directions for further research.

Overall, the findings suggest that states are struggling to develop appropriate policies to include LEP students in statewide assessment programs. The evidence indicates that states have not regularly included LEP students in most state assessment programs. Furthermore, policies for testing LEP students are sometimes inconsistent within and across states. For example, some states have policies to exempt LEP students from taking statewide assessments and at the same time have another policy that allows LEP students to take certain statewide assessments with modifications.

In addition, the findings suggest several areas for the development of policies and extended research. First, states need to refine policies for reporting LEP student data and to include them in state accountability reports. Second, since there is little documentation of their effectiveness, test modifications identified through the survey should be studied further. Implications for using test modifications with LEP students who possess varying levels of English language proficiency should be tracked and evaluated. Third, in states that offer certain assessments in languages other than English, further study is needed to ensure high technical quality of the translated tests (Stansfield, 1996). In addition, studies are needed to evaluate the best strategies for administering translated tests (e.g., test format). And, finally, for the seventeen states that require high school graduation tests, there is a need to study the validity of the assessments for LEP students and to identify strategies for allowing LEP students to participate in these assessments early on and in meaningful ways.

1. This research was carried out with funding from gra # T003H10002 from the U.S. Department of Education. The views expressed in this document are those of the authors and do not represent an official position of the Department of Education.

2. The initiative in California has since been abandoned.

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Strategies for Improving the Process of Educational Assessment

M. Kevin Matter
Cherry Creek Co. Public Schools

Test administration is an essential part of the educational assessment process, yet it often does not receive enough attention. Because teachers and principals are concerned with many components of the testing process, it is important for the assessment office to focus attention on test administration. This digest presents seven strategies that the assessment director may employ to improve test administration practices. These strategies highlight clear communication, the responsibility of the Building Test Coordinator, and rewarding and reinforcing quality. The administration process from school staff's perspective and the needs of the assessment office are both addressed.

Communicate--Communicate--Communicate

Parents and teachers rarely learn how results are used to improve curriculum, instruction, or individual student learning plans. Assessment offices and school districts have a responsibility to provide them with that information. Develop a year-long communication plan for school staffs, parents, and the community. It is important for everyone affected by the assessment process to be continually informed. They should know what tests are being administered, the purpose of the tests, what the past results show, and how the current results are used to improve student performance.

Tailor the information to fit the needs of the audience. Providing teachers and principals with test administration checklists, manuals, and reports to meet the assessment office needs for standardization and efficiency is not enough. They should be provided with information that meets their needs as customers of the test: how will the test impact their students, curriculum, and district? Briefly communicating to them the assessment impact reinforces the teamwork that is needed to ensure an assessment system that is both used and useful.

Designate a Building Test Coordinator

The key to both administration and processing quality is a team which includes a Building Test Coordinator at each school. This person is responsible for administering test materials, overseeing the test administration process, and providing the assessment office with quality materials. The Building Test Coordinator works as a liaison between the assessment office and the school.

Appoint qualified staff to assist the Building Test Coordinator with materials and with administration and scoring issues. This additional help will free the Building Test Coordinator to maintain ongoing communication with the assessment office much more easily. Have someone with a more flexible schedule assume responsibility for issuing materials. Possible choices for this position are the clerical staff, a teacher assistant, or a counselor. The administrative/scoring role may be filled by either a teacher or an administrator, as long as the person is knowledgeable about or will be trained in the technical and instructional issues of assessment.

Do not use the principal as Building Test Coordinator. Although it is important that the principal remain informed and involved in the assessment process--especially regarding deadlines and requirements -- the best role for the principal is to support the Building Test Coordinator by providing extra help and resources.

Meet with ALL Building Test Coordinators

Require all Building Test Coordinators to attend a brief overview meeting with the assessment staff. To keep the Building Test Coordinator informed, regularly share what works in the school or district, such as providing extra clerical time before and after testing days.

Do not send test materials through the mail. Provide all test materials at the meeting (except test booklets). Walk through all expectations (coordinator and teacher checklists, materials list, materials check-out sheet, administration directions) at the meeting.

Make the Building Test Coordinator personally responsible for the test materials. Before testing begins, communicate that the Building Test Coordinator must ensure that the materials provided meet the acceptable standards. Require the Building Test Coordinator to personally deliver the answer sheets after the testing (or arrange area "drop-off" locations around your district). Schedule a time for check in.

Develop a process to inspect the test result materials. Whenever possible, provide the Building Test Coordinator with options for the school (e.g., hiring part-time staff to prepare the completed materials). Explain that unacceptable materials will either be returned to the school, or schools will be charged for processing time. Use area check-in locations throughout the district, as needed.

Stress quality of test result materials. Explain the consequences of poor quality of materials returned by the Building Test Coordinator. Also emphasize the consequence of a particularly long turnaround time. Provide examples of what "good materials" look like (answer sheets completed correctly, header sheets completed, etc.). Explain that good input at the teacher/school level can alleviate hours of time at the assessment staff level.

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Design Processes to Reward Quality

Recognize a job well done. Find out what is rewarding to the Building Test Coordinator and do that! Examples of inexpensive tokens of appreciation include:

- Gift certificates from a book store
- Certificates of appreciation
- Letters of thanks to supervisors
- Thank You party
- Feedback on materials returned

Delaying the reports or results from one testing location because of problems with other teachers or schools "punishes" high quality work. If feedback deadlines are observed, schools will be quickly rewarded for their efforts.

Use "Quality" Techniques

Use an effective system of deadline dates. Good procedures include several "waves" of processing and reporting, with deadline dates determined by the time that is needed to properly collect and prepare materials for delivery to the testing office. Test coordinators will know the deadlines and understand the relationship between the date and quality of how materials were submitted for processing and the date the results are received.

Remember the Golden Rule. Assessment offices may be viewed by teachers and principals as "the enemy" if practices involve high stakes accountability and unfair treatment. To counteract these perceptions, assessment processes must be developed that involve the "user/customer" throughout the entire process, not just at the end.

The assessment office must design goals, processes, and procedures with the following in mind:

Information: All information that is provided must be timely and understandable. Materials should meet the needs and expectations of the user.

Responsiveness: Assessment staff must be accessible at times that are conducive to the culture of the school and the time demands placed on the teacher, the principals, and other staff.

Input: Ask for feedback whenever possible, particularly when the user is qualified to comment on the quality of the material. Act on this feedback, making the necessary improvements.

Teamwork: Teachers, principals, parents, and assessment offices must work together. Communicate the idea that performance at one school affects other schools in the district.

Rapid turnaround: Reward schools by providing rapid processing and reporting of results. Late is almost identical to never with assessment results.

Reports: Spend the additional time and resources necessary to customize reports for each audience. The payoff for reports that are understandable is actual use of the results.

Useful and usable information: Create staff development and training for teachers, principals, school staff, and parents that is focused on assessment results they need and value.

High standards: Demonstrate that the high standards that apply to others apply to the assessment office processes and procedures as well. Take prompt action to rectify identified problems.

Continual Improvement in Processes

Efforts to improve administration, processing, and reporting take several years. Plan for incremental steps to change behavior by rewarding and reinforcing quality results. Keep a log of good practice ideas; use this to reduce variation and problems when using a particular process. Be positive, but expect new problems to occur even as others are reduced.

Involve the entire assessment staff in the planning process, as well as key representatives from the various internal and external audiences. Allow assessment offices to be seen as "a part of," rather than "apart from" the schools and teachers. Consider the point of view of all involved in the assessment process.

Communicate continuously with assessment staff, building administrators, central office, and as much as possible with the test coordinators and teachers. Convince them of the benefits of improvements in the entire assessment process--more usable information, at a lower cost to the taxpayer.

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by Bettina Lankard Brown

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What's Happening in School-to-Work Programs?

The School-to-Work Opportunities Act authorized the allocation of resources for initiatives that would help young people make the transition from school to work. As the implementation of various initiatives is reported in the literature, the literature base related to school-to-work (STW) is rapidly expanding. This *Digest*, based on an ERIC publication (Lewis 1997), presents a summary of the characteristics, principles, and practices of successful school-to-work efforts as synthesized from the literature.

Philosophy Guiding School-to-Work

Today's high-skill job market requires advanced academic knowledge and workplace skills and training, yet young entrants to the work force are not meeting these criteria. According to Lewis (1997), "a substantial number of youth—especially the economically disadvantaged, racial and ethnic minorities, and the disabled—do not complete high school and are not enrolled in school" (p. 4). Of those who do complete high school, three-quarters enter the work force without bachelor's degrees and many lack the academic and entry-level occupational skills required by their employers (ibid). It is not surprising that their workplace experiences are characterized by high levels of job turnover and unemployment, as well as falling wages. Businesses are bearing extensive costs resulting from the mismatch between school learning and workplace requirements. "It is estimated that American business spends nearly $30 billion training and retraining its work force" (National School-to-Work Learning and Information Center 1996a, p. 2).

The School-to-Work Opportunities Act was designed to improve student learning, in-school retention, and transition to the workplace by improving the quality and relevance of education for all students through experiences that integrate school-based and work-based learning and improve students' knowledge of and access to career opportunities (ibid.). Its implementation requires the restructuring of secondary education and the extensive involvement of business in the work force preparation of youth. Efforts to make the fundamental changes required by the school-to-work legislation have been reported in the literature. Lewis' (1997) paper presents a synthesis of empirical evidence on the conduct and outcomes of such efforts that can be used to guide the implementation of school-to-work initiatives.

Elements and Characteristics of Successful Programs

School-to-work initiatives do not reflect a single model, but rather reflect the conditions of the settings and contexts in which they are introduced. The classification of an initiative as school-to-work may be linked to the following elements identified by Hollenbeck (1996). STW initiatives—

- are an identifiable formal part of a secondary and/or postsecondary curriculum,
- involve active participation of employers,
- involve actual or simulated on-the job experience, and
- result in formal or informal certification of skills.

"The major types of efforts that meet these criteria include apprenticeships, youth or preapprenticeships, techprep education, career academies, cooperative education, school-based enterprises, business-education compacts, employer certified programs, worksite learning, and career exposure programs" (ibid., p. 3). In grades K-8, teachers and counselors provide parents as well as students information about careers and school-to-work opportunities and incorporate academic and vocational integration activities in their classrooms.

In his review and synthesis of the STW literature, Lewis (1997) summarized the characteristics of effective initiatives as they relate to overall system development, partnerships, commitment, funding, guidance, and classroom/worksite activities. The following statements reflect that summary of effective initiatives:

1. They are guided by a comprehensive strategic vision that sets forth the linkages expected at each level of the system.
2. They involve employers in partnership with schools.
3. They require commitment and support at all levels and from all stakeholders—schools, businesses, postsecondary institutions, community partners, and parents.
4. They provide adequate financial support, which often means that a variety of different sources have been developed.
5. They provide students with a strong foundation of career information and a planned sequence of learning experiences throughout their school years that will help them develop an awareness of their own interests, goals, and abilities.
6. They achieve and support the integration of academic and vocational learning.

These characteristics, which offer the basis for educational efforts to support the connection of school-based and work-based learning, are reflected in the following school practices.

Examples of Effective Practices

A variety of innovative practices have been initiated in schools and communities committed to facilitating school-to-work transitions. Some of the teacher practices that have had a significant effect on students and the classroom are described by Cicmanec and Boston (1997) (pp. 1-2):

- Teachers structure classroom activities to integrate academic skills with skills required for successful employment.
- Teachers and counselors provide information about careers and school-to-work opportunities to parents and students and help them make decisions based on their knowledge of the curriculum and students' interests and aptitude.
- Teachers form partnerships with business people, technical workers, and others from the public and private sectors to provide resources and enhance classroom experiences.
- Teachers broaden and deepen their knowledge of various vocations, collaborating with employers to provide contextual learning activities and to set achievable goals for their students.
- Teachers use new ways to assess students' knowledge and skills and to help prepare students to meet state and industry standards.
- School representatives work with others from business, technical and vocational schools, community colleges, universities, nonprofit organizations and government to develop, implement, and assess school-to-work opportunities for their students.

Other effective school-to-work practices are those that provide students with job-related experiences and connect them to the work environment. Through STW efforts that involve job shadowing and mentoring, students learn about job possibilities and conditions of

employment. Through volunteer work, internships, and work experiences, students are able to experience the work environment firsthand. Through engagement in work-based learning, students have an opportunity to apply academic knowledge and vocational skills to solve problems of the real world and perform job-related tasks (National School-to-Work Learning and Information Center 1996b).

Although many people have the perception that school-to-work initiatives benefit only those who do not plan to attend college, Bailey and Merritt (1997) point out that such efforts are beneficial to all students—including the college bound—by promoting the following outcomes:

- They help students clarify their personal goals and determine their purposes for going to college.
- They broaden and inform students' choices for careers/jobs.
- They help students develop self-confidence by giving them learning responsibilities and linking them with the broader community outside school.
- They boost students' earning power by giving them some work-based learning experience.
- They offer hands-on learning opportunities to reinforce academic instruction.

Rather than competing with the existing realm of education, STW initiatives complement and enhance education's message by connecting what students learn in school with the application of knowledge in the real world of work. To accomplish this mission, STW initiatives must address certain barriers.

Barriers to Successful Initiatives

Attitude is a major barrier to the success of STW efforts. Some employers lack confidence that their involvement in STW initiatives will be cost effective, reaping them rewards in reduced hiring costs and greater productivity. They are discouraged by the costs of bring students into the organization and allocating time for skilled workers to work with them, by laws regarding child labor and safety, by insurance costs for general liability and workers' compensation, and by management and employee resistance to work-based learning.

Not all parents are receptive to work-based learning. They see one drawback as the need to remove their sons and daughters from the school setting, which is familiar to most parents, and introduce them to the adult workplace. Additionally, many parents perceive that school-to-work initiatives are a threat to academic learning and will draw their children away from college preparation and attendance.

Postsecondary institutions may be reluctant to participate in school-to-work collaboration with high schools because of the increased costs and hassles involved in collaboration efforts. Four-year institutions may shy away from the extra work and collaboration required to recognize school-to-work course work at the college level. In addition, collaboration can pose a threat to institutional control and accountability.

Teacher attitudes also have a great effect on the successful implementation of school-to-work initiatives. Some teachers may be fearful of change and reluctant to devote the time and effort required to learn and incorporate new ways of teaching and learning into their instruction, curriculum, and classroom management.

Recommendations for Program Improvement

To reverse the negative perceptions regarding school-to-work efforts, additional research and more definitive evaluations are required (Bailey and Merritt 1997). A 1996 study by the Manpower Demonstration Research Corporation (Olson 1997) found that employers were willing to take part in STW program approaches ranging from career academies to youth apprenticeships. However, the number of employers and students engaged in the effort was small—9 and 25 respectively. Additionally, the study did not look at student outcomes.

Lewis (1997) made the following recommendations for improving school-to-work efforts:

- *Recruit enough employers who are willing to provide opportunities for work-based learning.* Businesses need evidence that shows the mutual benefits of school-business partnerships.
- *Provide teachers the time, resources, and support required to connect school-based and work-based learning.* Teachers need training and staff development time and opportunities to gain experience with employers, e.g., through externships. They need opportunities to exchange knowledge with all the stakeholders in school-to-work, e.g., students, school administrators, community members, employers, and representatives from postsecondary institutions and four-year colleges.
- *Inform parents about the objectives of school-to-work.* Provide parents with evidence of program effectiveness to counter any erroneous perceptions and assumptions.
- *Foster the vocational maturity of high school students.* Ensure that students are properly prepared to assume work-based learning activities in the workplace. Provide ongoing guidance and counseling.

If the changes called for by the School-to-Work Opportunities Act are to be realized, "an investment much greater than that currently being made will be required from all partners. If this investment is forthcoming, if sound principles are followed, and if the systems are given adequate time to develop, STW can have a major impact on education and the productivity of the U.S. work force" (Lewis 1997, p. 25).

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Whole-School Reform

By Jim McChesney

In recent years, a new generation of programs has become available to educators with a promise that they will help all students, even those on the margins, succeed in school. These programs have in common the assumption that school reform, to bring about measurable improvement, must embrace the whole school.

Don't try these programs, warn their developers, if you want only piecemeal improvements or if you can't wean yourself from the notion that reform is a one-time event. Be prepared to reexamine and change all parts of school life, from attitudes and culture to leadership, parent and community involvement, curriculum, facilities, and, of course, financing.

Many schools have implemented whole-school reform models, and evidence on the programs' performance is mounting. Interest in the models is certain to grow now that Congress has appropriated $150 million for the Comprehensive School Reform Demonstration Program (CSRD). Almost 3,000 schools will receive awards of at least $50,000 each to implement whole-school models or to develop their own research-based reforms aimed at helping all children meet challenging state standards.

This Digest describes several of the programs that have been designed to bring about whole-school reform, spells out the factors that determine their success, and takes a closer look at the Comprehensive School Reform Demonstration Program.

What Is Whole-School Reform?

Whole-school (or comprehensive school) reform is a broad brush that covers a diverse set of nationwide and local programs. In their most visionary expression, these reform programs are cross-disciplinary efforts that involve home, school, and community in the intellectual development and personal nurturing of all children.

"This new approach," says Brent Keltner (1998), "takes an integrated view of the reform process. It is based on the concept that the way to successfully improve school performance is to simultaneously change all elements of a school's operating environment so as to bring each element into alignment with a central, guiding vision."

Robert Slavin, founder of Success for All, is quoted as saying, "We do a heart-lung transplant. One of the things we learned is that if you don't deal with both instruction and curriculum and school organization, things start to slide back. In a Success for All School, there's nothing to slide back to—it's all gone" (Lynn Olson 1998).

Essential to the policies and practices of these reform efforts is the belief that gains in student outcomes require a reconceptualization of traditional notions of teaching and learning (Robert Cooper and colleagues 1998).

What Are the "New American Schools" Programs?

Several of the programs receiving attention in the whole-school reform movement are being promoted by New American Schools (NAS). This private organization was formed in 1991 as the New American School Development Corporation (Glennan 1998). With an initial goal of creating designs to enable students to reach high educational standards, NAS has evolved into a program that offers training and implementation assistance.

NAS emphasizes the need for professional development that is consistent with the scope and content of the designs. Because NAS initiatives require at least a three-year effort to implement supportive operating environments, design teams also work with jurisdictions to establish adequate funding, which includes access to CSRD money.

Eight designs represent the diversity of approaches within NAS. They are America's Choice Design Network, ATLAS Communities, Co-NECT Schools, Expeditionary Learning Outward Bound, Modern Red Schoolhouse, Purpose-Centered Education—The Audrey Cohen College System of Education, Roots and Wings, and Urban Learning Centers (Educational Research Service 1998). Although the designs have differing emphases, they share several characteristics:

- They aim to help all students reach high academic standards.
- They are comprehensive in their approach; address all core academic subject areas, all types of school organization, and all grade levels; and align all resources (human, financial, and technological).
- They incorporate best-practices research and are the subjects of ongoing evaluation aimed at continuous improvement.
- They provide faculty and community with a shared vision, focus, and organizing framework that shapes and directs reform efforts.
- They provide high-quality professional development for teachers and administrators.
- They offer innovative and effective ways to involve parents and community in schooling.

What Are Some Other Promising Whole-School Programs?

Other comprehensive programs, some local and some nationwide, are attempting to bring improvement in public schools. Several prominent ones are reviewed by Schaffer and colleagues (1997):

- *Comer Model (School Development Program).* Developed by James Comer and the Yale Child Study Center, this program creates a cadre of significant adults in students' lives—at home, in school, and in the community—who work together to support and nurture each child's total development.
- *Success for All.* Developed by Robert Slavin and associates at The Johns Hopkins University, this research-based schoolwide program uses prevention and intensive early intervention to achieve and maintain success through the elementary grades.

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• *Paideia Program.* A development of Mortimer Adler and others in association with the Institute for Philosophical Research, Chicago, this program focuses on high academic achievement for all students, regardless of background, with goals including the acquisition of basic knowledge, development of basic intellectual skills, and enlarged understanding of universal ideas and values.

• *Coalition of Essential Schools.* Developed by Theodore Sizer, CES is a high school restructuring program that aims to get students to use their minds well by simplifying curriculum so each student will master a limited number of essential skills and areas of knowledge. Site personnel control the program's implementation.

• *Schoolwide Projects.* Funded with Title I money, these programs include schoolwide strategies for all students in schools with a poverty ratio of as low as 50 percent. Typical projects have reduced class size, eliminated pullout instruction, increased staff development, and acquired new classroom materials.

What Governs the Success of Whole-School Reform?

As with all efforts to improve schools, success is not automatic. A Rand Corporation researcher told Olson, "We're basically, in our analysis, providing a cautionary tale about how difficult it is to grow reform quickly." She went on to say, "We want to have a 'buyer beware' sign out there. Don't think you can just buy this off-the-shelf technology, plug it into a school, and then things are going to improve."

Two factors are critical to success, states the RAND report: "Schools where educators felt that they adopted a design without fully understanding it or that they were forced to adopt a design showed lower levels of implementation than schools that were well-informed and had freedom of choice" (Glennan and colleagues).

Measurable success, the report noted, came in districts that "had stable leadership that strongly supported the designs, were free of political crisis, had a culture of trust between schools and the central office, provided some school-level autonomy in such matters as budgets and hiring, and provided more resources for professional development and planning."

Failure of reform, as well, can be traced to several issues: (1) financing; (2) leadership; (3) commitment to the program; (4) perceptions of the general public, parents, and students; (5) staffing; (6) curriculum; (7) political pressures; (8) racial problems; (9) insufficient facilities; and (10) problems of management and scheduling students and staff communication (Schaffer and colleagues).

Success, then, depends on many factors. Patricia Wasley and her colleagues (1997) say that the school's staff must share a common image of a different, more rigorous kind of schooling, be able to deal directly with difficult and often controversial issues, and be willing to receive and act on critical feedback from external sources. In addition, the faculty must have or develop self-analysis skills to monitor data on student achievement, as well as be able to deal simultaneously with multiple aspects of school redesign—curriculum, pedagogy, assessment, and school culture. Involvement of parents is also crucial.

How Do Schools Apply For Federal Funds?

Those schools and districts that see the need and choose to pursue a whole-school approach to reform will find a wide range of choices. For many schools, an important consideration will be the program's cost. Thus the recent availability of funds from the Comprehensive School Reform Demonstration Program (CSRD) is expected to make whole-school reform more attractive to many schools.

To qualify for CSRD funds, schools must select or develop a program that thoughtfully integrates such key elements as curriculum and instruction, student assessment, teacher professional development, parent involvement, and school management (U.S. Department of Education 1998). Then, through their local districts, schools can apply for funding through their state education agencies, which have been allocated the funds by the U.S. Department of Education.

A key feature of the funding requirements is its encouragement of schools to examine well-researched, externally developed models that have been replicated with proved results. However, locally developed programs that have research-based evidence of effectiveness are also eligible for CSRD funding.

Funds became available to states on July 1, 1998, and will remain available until September 30, 2000. Funding requirements are available on the U.S. Department of Education's website (see below). Schools need not be eligible for Title I to qualify. To contact the U.S. Department of Education, call 1-800-USA-LEARN.

Beyond need, will, and funding, the best advice seems to be to choose a program with a proven record that fits your school's particular needs.

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Priority 5: Teacher Quality

There will be a talented, dedicated, and well-prepared teacher in every classroom.

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Assessing LEP Migrant Students for Special Education Services

by José Rafael Lozano-Rodriguez and Jaime A. Castellano

Among the most needy groups, migrant students—who transfer from school district to school district, within or between states, accompanying their parents on a quest for seasonal employment—may be the most "at risk" group of all. Yet, many of these students are not identified for needed special education services in a timely manner. This Digest describes the obligations of schools to provide such services and discusses approaches to referring students, assessing children, working with families, and placing children in special education programming.

The Obligation and the Need

Federal law mandates special education services for all children in the United States who need them from birth to age 21. Legislative evolution of this mandate began with the Education for All Handicapped Children Act of 1975 (P.L. 94-142) and continued with passage of the Individuals with Disabilities Education Act of 1990 (IDEA) (P.L. 101-476). The law requires that children be fairly assessed in their native language, and classified according to type of disability (such as hearing impaired, learning disabled, speech and language impaired, mentally handicapped, developmentally delayed, or many other such classifications). Children are to receive educational services they need to be successful at school in the least restrictive environment through an individualized educational program.

Although the past 25 years have seen a progression of legislation and regulations to reform special education, the needs of migrant children with disabilities have received little attention (Figueroa, 1993). One long-standing barrier to the delivery of adequate special education services to migrant students has been the lack of interdisciplinary information sharing among regular, migrant, and special educators (National Policy Workshop on the Special Education Needs of Migrant Handicapped Students, 1984). Although they have not attracted much attention from the special education reformers, migrant students with disabilities may be among the most severely affected by physical and mental conditions resulting from poverty, poor nutrition, and multiple health problems (Baca & Harris, 1988). The U.S. Office of Special Education (1998) reports that nearly 8% of public school students receive special education services under IDEA. Migrant children are not exempt from the conditions underlying these statistics, and some need the services of special educators, as well as instruction by teachers of English for speakers of other languages, to benefit from the rest of the school program.

Referring Students

The referral process takes time and includes requirements that vary among agencies, districts, and states. This Digest includes general information about the process for the school-aged child.

When teachers notice a child having difficulty in the classroom, they should refer the child to a *child study team*. The difficulties observed may be in communication, learning, behavior, emotional state, or other areas. A child study team is usually made up of teachers, psychologists, speech and language pathologists, social workers, or other professionals as needed. If the student shows some learning difficulty, strategies to correct the difficulty must be put in place and documented within a reasonable time.

When classroom strategies do not correct the difficulty, parental permission to test must be requested. An educational screening is done first to determine if further testing is necessary. This screening usually consists of tests for nonverbal ability, vocabulary, math, and reading and writing skills. If the need for further testing is detected, the child is then referred for an in-depth assessment. Because migrant students may spend less than the usual amount of time within a particular school, educators must move *quickly* to complete the process, which will allow access to needed special education services.

Assessing the Child

Because most migrant students are from Hispanic (primarily Mexican) backgrounds, multidisciplinary assessment teams should include bilingual educators along with the speech and language pathologists, psychologists, and other specialists. The children's language and cultural backgrounds will affect every aspect of the needs assessment process (Collier & Hoover, 1987). Assessments conducted in the student's native language, using a combination of standardized and qualitative information, such as teacher and parent questionnaires, will produce the most reliable and valid information.

Evaluators must consider as many aspects of the student's life circumstances as possible to accurately interpret the results of educational testing. In particular, a student's emotional well-being, length of time in the United States, and overall health status must be studied and considered. Migrant students' experiences may vary so greatly from experiences required for good performance on U.S. educational achievement measures that the tests prove invalid for such youngsters. Thus, background information is essential for adequate assessment (Hamayan & Damico, 1991). The following sections describe some best practices that can help educators address migrant student needs in different and creative ways.

Most schools have a waiting list of children to be assessed by a school psychologist or other specialists. Because of their transience, though, migrant students should be given testing priority to speed along the process.

IDEA states students must be assessed fairly in their native language. If these services are unavailable, providing a trained interpreter would be the next best option. Small school districts must consider contracting services from qualified personnel in the community or nearby coun-

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ties. In the event a psycho-educational evaluation is necessary, instruments such as the Leiter International Scales-Revised (Roid & Miller, 1997) are highly recommended. Tests such as the Language Assessment Scales-Reading/Writing (Duncan & De Avila, 1988) that compare limited-English-proficient (LEP) students with other LEP students are suggested. If a bilingual speech and language evaluation is recommended, instruments such as The Clinical Evaluation of Language Fundamentals-3, Spanish Edition (Semel, Wiig, & Secord, 1997) or The Preschool Language Scale-3 (Spanish) (Zimmerman, Steiner, & Pond, 1993) and communication performance scales should be considered. These performance scales include the Bilingual Classroom Communication Profile (Roseberry-McKibbin, 1993) and the Observational Rating Scales (Semel, Wiig, & Secord, 1996).

Standardized instruments must be interpreted with *caution*. If English normed tests are used, the evaluator must interpret the results especially carefully. Research by Zimmerman, Steiner, and Pond (1993) shows that Hispanic children score nine to ten standard points lower than the population for which the test was normed. Therefore, test scores must be interpreted carefully before eligibility and placement decisions are made.

Working with Parents

Special education procedures may be totally foreign to migrant parents. And while families vary, educators will likely encounter particular challenges that are attributable to cultural and experiential differences between school personnel and migrant parents.

- Keep in mind that migrant parents usually connect better with a person than an institution. In fact, personal contact brings extremely positive results.
- Find a person willing to be the regular liaison who speaks the parents' language, and include this person in all meetings with parents.
- Establish confianza (trust) among special educators, parents, and the liaison. The special education process can be very intimidating to parents. The liaison can explain the procedures and documents in the parents' language, decreasing their fear.
- Follow up on documents sent home and not returned to the school. Sometimes, documents are not returned due to fear of the system; other times, parents are illiterate in both English and Spanish.
- Clearly explain how and why the child will benefit from the program.
- Walk the parents through each step of the process and do not assume they understand it just because they agree with the educators.
- Ask questions to make sure the parents understand the process.
- Encourage parents or take them to visit special education classrooms before the student is placed into a program.
- Reassure the parents of their rights under the law and of the benefits of the program.
- Explain that these problems are not "contagious," to reassure parents of the child's safety.

Placement

A child study team may be ready to place the student into a particular education program only to find that the student has already left the school. To avoid this scenario, schools must pursue interventions quickly. After the evaluation is complete, the child study team meets with parents to explain the testing results and discuss how best to address the student's educational needs. If special education services are needed, the team (including the parents) will design an individualized educational program, and parents must give their consent. At the end of the process, place a copy of all the documents in an envelope and urge the parents to keep them in a safe place so they can present them when registering the child at other schools.

The special education process requires complex procedures and documentation that can be intimidating to migrant parents, especially if someone asks a question about their legal status in this country. Educators should be aware that asking such questions is illegal. Reassure the parents that the procedures have been designed to protect their rights and are only a part of the placement process.

Summary and Recommendations

Many migrant students need special education services, provided in a timely manner. To better serve this particular population, the following actions are recommended: (1) migrant children should be referred for special education services when needed, (2) the assessment and placement process must be carried out quickly, (3) cultural and linguistic differences must be considered when testing and placing this population, (4) educators must establish "confianza" or trust with the parents to obtain positive results and gain their cooperation in transferring documents to the next school, and (5) interagency communication and cooperation are essential to successfully serve these children.

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José Rafael Lozano-Rodriguez, M.A., CCC-SLP is a bilingual speech and language pathologist, and Jaime A. Castellano, Ph.D., is coordinator of federal programs. Both work in the school district of Palm Beach at West Palm Beach, Florida.

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Classroom Questions

Amy C. Brualdi,
ERIC Clearinghouse on Assessment and Evaluation

In 1912, Stevens stated that approximately eighty percent of a teacher's school day was spent asking questions to students. More contemporary research on teacher questioning behaviors and patterns indicate that this has not changed. Teachers today ask between 300-400 questions each day (Leven and Long, 1981).

Teachers ask questions for several reasons (from Morgan and Saxton, 1991):

1. the act of asking questions helps teachers keep students actively involved in lessons;
2. while answering questions, students have the opportunity to openly express their ideas and thoughts;
3. questioning students enables other students to hear different explanations of the material by their peers;
4. asking questions helps teachers to pace their lessons and moderate student behavior; and
5. questioning students helps teachers to evaluate student learning and revise their lessons as necessary.

As one may deduce, questioning is one of the most popular modes of teaching. For thousands of years, teachers have known that it is possible to transfer factual knowledge and conceptual understanding through the process of asking questions. Unfortunately, although the act of asking questions has the potential to greatly facilitate the learning process, it also has the capacity to turn a child off to learning if done incorrectly. The purpose of this digest is to provide teachers with information on what types of question and questioning behaviors can facilitate the learning process as well as what types of questions are ineffective.

What is a Good Question?

In order to teach well, it is widely believed that one must be able to question well. Asking good questions fosters interaction between the teacher and his/her students. Rosenshine (1971) found that large amounts of student-teacher interaction promotes student achievement. Thus, one can surmise that good questions fosters student understanding. However, it is important to know that not all questions achieve this.

Teachers spend most of their time asking low-level cognitive questions (Wilen, 1991). These questions concentrate on factual information that can be memorized (ex. What year did the Civil War begin? or Who wrote *Great Expectations*?). It is widely believed that this type of question can limit students by not helping them to acquire a deep, elaborate understanding of the subject matter.

High-level-cognitive questions can be defined as questions that requires students to use higher order thinking or reasoning skills. By using these skills, students do not remember only factual knowledge. Instead, they use their knowledge to problem solve, to analyze, and to evaluate. It is popularly believed that this type of question reveals the most about whether or not a student has truly grasped a concept. This is because a student needs to have a deep understanding of the topic in order to answer this type of question. Teachers do not use high-level-cognitive questions with the same amount of frequency as they do with low-level-cognitive questions. Ellis (1993) claims that many teachers do rely on low-level cognitive questions in order to avoid a slow-paced lesson, keep the attention of the students, and maintain control of the classroom.

Arends (1994) argues that many of the findings concerning the effects of using lower-level-cognitive versus higher-level-cognitive questions has been inconclusive. While some studies and popular belief favor asking high-level-cognitive, other studies reveal the positive effects of asking low-level cognitive questions. Gall (1984), for example, cited that "emphasis on fact questions is more effective for promoting young disadvantaged children's achievement, which primarily involves mastery of basic skills; and emphasis on higher cognitive questions is more effective for students of average and high ability. . ." (p. 41). Nevertheless, other studies do not reveal any difference in achievement between students whose teachers use mostly high level questions and those whose teachers ask mainly low level questions (Arends, 1994; Wilen, 1991). Therefore, although teachers should ask a combination of low-level-cognitive and high-level-cognitive questions, they must determine the needs of their students in order to know which sort of balance between the two types of questions needs to be made in order to foster student understanding and achievement.

How to ask questions that foster student achievement

In a research review on questioning techniques, Wilen and Clegg (1986) suggest teachers employ the following research supported practices to foster higher student achievement:

- phrase questions clearly;
- ask questions of primarily an academic nature
- allow three to five seconds of wait time after asking a question before requesting a student's response, particularly when high-cognitive level questions are asked;
- encourage students to respond in some way to each question asked;
- balance responses from volunteering and nonvolunteering students;
- elicit a high percentage of correct responses from students and assist with incorrect responses;
- probe students' responses to have them clarify ideas, support a point of view, or extend their thinking;
- acknowledge correct responses from students and use praise specifically and discriminately. (p. 23)

What is a Bad Question?

When children are hesitant to admit that they do not understand a concept, teachers often try to encourage them to ask questions by assuring them that their questions will neither be stupid or bad. Teachers frequently say that all questions have some merit and can contribute to the collective understanding of the class. However, the same theory does not apply to teachers. The content of the questions and the manner in which teachers ask them determines whether or not they are effective. Some mistakes that teachers make during the question and answer process include the following: asking vague questions (ex. What did you think of the story that we just read?), asking trick questions, and asking questions that may be too abstract for children of their age (ex. asking a kindergarten class the following question: How can it be 1:00 P.M. in Connecticut but 6:00 P.M. in the United Kingdom at the same moment?)

When questions such as those mentioned are asked, students will usually not know how to respond and may answer the questions incorrectly. Thus, their feelings of failure may cause them to be more hesitant to participate in class (Chuska, 1995), evoke some negative attitudes towards learning, and hinder the creation of a supportive classroom environment.

Conclusion

Sanders (1966) stated, "Good questions recognize the wide possibilities of thought and are built around varying forms of thinking. Good questions are directed toward learning and evaluative thinking rather than determining what has been learned in a narrow sense" (p. ix). With this in mind, teachers must be sure that they have a clear purpose for their questions rather than just determining what knowledge is known. This type of question planning results in designing questions that can expand student's knowledge and encourage them to think creatively.

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97
8

Constructivism in Teacher Education: Considerations for Those Who Would Link Practice to Theory

Ismat Abdal-Haqq

In recent years, constructivism has received considerable attention in education scholarship, practitioner preparation, and policy formation (MacKinnon & Scarff-Seatter, 1997; Richardson, 1997; Teets & Starnes, 1996). It has been heralded as a more natural, relevant, productive, and empowering framework for instructing both P-12 and teacher education students (Cannella & Reiff, 1994). This Digest identifies major forms of constructivism and considers issues and challenges that surface when implementing constructivist approaches to preservice and inservice teacher education.

What Is Constructivism?

Constructivism is an epistemology, a learning or meaning-making theory, that offers an explanation of the nature of knowledge and how human beings learn. It maintains that individuals create or construct their own new understandings or knowledge through the interaction of what they already know and believe and the ideas, events, and activities with which they come in contact (Cannella & Reiff, 1994; Richardson, 1997). Knowledge is acquired through involvement with content instead of imitation or repetition (Kroll & LaBoskey, 1996). Learning activities in constructivist settings are characterized by active engagement, inquiry, problem solving, and collaboration with others. Rather than a dispenser of knowledge, the teacher is a guide, facilitator, and co-explorer who encourages learners to question, challenge, and formulate their own ideas, opinions, and conclusions. "Correct" answers and single interpretations are deemphasized.

As an approach to teaching, constructivism may be examined as much for what it is **not** as for what it is. It challenges what Oldfather, Bonds, and Bray (1994) characterize as the default mode in education—an empiricist/reductionist approach to teaching and learning. They cite Freire who considers this approach to be a "banking" model—the teacher fills students with deposits of information considered by the teacher to be true knowledge, and the students store these deposits, intact, until needed. Cannella & Reiff (1994) label these traditional models didactic, memory-oriented transmission models. Constructivists generally maintain that when information is acquired through transmission models, it is not always well integrated with prior knowledge and is often accessed and articulated only for formal academic occasions such as exams (Richardson, 1997). Constructivist approaches, in contrast, are regarded as producing of constructivism, there are also different interpretations of it. Vadeboncoeur (1997) identifies three significant strands within these interpretations—Piagetian, sociocultural, and emancipatory constructivism—strands differentiated primarily by (1) the subject of study, (2) views about how cognitive forms develop, and (3) "the liberatory power of the pedagogical approaches derived" (p. 22). In general, two broad interpretations can be found among contemporary educators—psychological constructivism, most notably articulated by Piaget, and social constructivism, associated with Vygotsky. Two major issues shape these interpretations: (1) education for individual development versus education for social transformation and (2) the degree of influence that social context has on individual cognitive development (Richardson, 1997; Vadeboncoeur, 1997).

Psychological Constructivism

Psychological or Piagetian constructivists generally regard the purpose of education as educating the individual child in a fashion that supports the child's interests and needs; consequently, the child is the subject of study, and individual cognitive development is the emphasis. Learning is primarily an individualistic enterprise. This is a child-centered approach that seeks to identify, through scientific study, the natural path of cognitive development (Vadeboncoeur, 1997). This approach assumes that students come to classrooms with ideas, beliefs, and opinions that need to be altered or modified by a teacher who facilitates this alteration by devising tasks and questions that create dilemmas for students. Knowledge construction occurs as a result of working through these dilemmas. Characteristic instructional practices include "discovery learning" and hands-on activities, such as using manipulatives; student tasks that challenge existing concepts and thinking processes; and questioning techniques that probe students' beliefs and encourage examination and testing of those beliefs (Richardson, 1997).

To a large extent, this approach assumes that development is an ingrained, natural, biological process that is pretty much the same for all individuals, regardless of gender, class, race, or the social or cultural context in which learning and living take place (Vadeboncoeur, 1997). Internal development is the focus of the teaching environment, and the social and historical context, as well as issues of power, authority, and the place of formal knowledge in the learning environment are not emphasized (Richardson, 1997). It is essentially a decontextualized approach to learning and teaching. Critics of the psychological constructivist approach deprecate its lack of attention to "the influence of the classroom culture and the broader social context" (Vadeboncoeur, 1997), as well as disregard for power issues, particularly power issues related to knowledge production (Martin, 1994; Richardson, 1997; Vadeboncoeur, 1997).

Social Constructivism

Social or Vygotskian constructivism emphasizes education for social transformation and reflects a theory of human development that situates the individual within a sociocultural context. Individual development derives from social interactions within which cultural meanings are shared by the group and eventually internalized by the individual (Richardson, 1997). Individuals construct knowledge in transaction with the environment, and in the process both the individual and the environment are changed. The subject of study is the dialectical relationship between the individual and the social and cultural milieu.

Schools are the sociocultural settings where teaching and learning take place and where "cultural tools," such as reading, writing, mathematics, and certain modes of discourse are utilized (Richardson, 1997). This approach assumes that theory and practice do not develop in a vacuum; they are shaped by dominant cultural assumptions (Martin, 1994; O'Loughlin, 1995). Both formal knowledge, the subject of instruction, and the manner of its presentation are influenced by the historical and cultural environment that generated them. To accomplish the goals of social transformation and reconstruction, the context of education must be deconstructed, and the cultural assumptions, power relationships, and historical influences that undergird it must be exposed, critiqued, and, when necessary, altered (Myers, 1996). Variants of social constructivism include situated constructivism, social reconstructivism, sociocultural constructivism, sociohistorical constructivism, and emancipatory constructivism.

Constructivist Frameworks in Teacher Education

While it may inform and influence practice, constructivism is a theory of learning, not a theory of teaching (Wolffe & McMullen, 1996), and translating theory to practice is both difficult and imprecise (MacKinnon & Scarff-Seatter, 1997). However, education literature documents several large- and small-scale efforts to do so (DeJong & Grooms, 1996; Kaufman,

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1996; Richardson, 1997). For example, as part of a statewide education reform initiative, University of Louisville faculty, supported by funding from the Kentucky Department of Education, developed 11 guiding principles and possible indicators of constructivist teaching (Fischetti, Dittmer, & Kyle, 1996). The venerable Foxfire Project devised 11 core practices that reflect the constructivist underpinnings of the Foxfire approach to teaching and professional development, which has evolved over a 30-year period (Teets & Starnes, 1996).

Constructivist teacher education generally reflects two major traditions—the developmental and social reconstructionist traditions (Canella & Reiff, 1994). Programs influenced by the developmental tradition attempt to teach students how to teach in a constructivist, generally Piagetian, manner. They are typically characterized by substantial direct instruction in theory and practice, often without complementary opportunities for inquiry, discovery, or self-examination. This approach can easily become overly prescriptive. If this occurs, the teacher educator models an approach to teaching that is essentially antithetical to the approach students are intended to employ in their future classrooms (Oldfather, Bonds, & Bray, 1994).

Programs influenced by social reconstructionist tradition attempt to help teacher education students deconstruct their own prior knowledge and attitudes, comprehend how these understandings evolved, explore the effects they have on actions and behavior, and consider alternate conceptions and premises that may be more serviceable in teaching. Critical analysis and structured reflection on formal course knowledge and everyday practical experience are incorporated.

Richardson (1997) identifies two factors that appear to affect the approach teachers and teacher educators take in forming constructivist settings—the extent to which the social is acknowledged as a critical factor in learning and individual cognitive development and the specific content, subject matter, or discipline. Some subjects, such as mathematics, are more "bounded" than others by rules, formulae, and procedures. They are more likely to be regarded by teachers as producing problems and tasks to which there are "correct" answers. Individual interpretations and construction of ideas and concepts are less likely to be encouraged by teachers than in subjects such as literature and writing.

Challenges

The overarching challenge constructivism presents to teachers and teacher educators is the formidable task of translating a learning theory into a theory of teaching (MacKinnon & Scarff-Seatter, 1997), which in turn raises questions about what teachers need to know and be able to do. For teacher educators, among other tasks, this involves balancing the need to acknowledge the different discipline-specific requirements of teaching with the need to model constructivist methods in teacher education courses and practicums. Richardson also (1997) notes the limits of a perspective on teaching that values students' understandings at the expense of "right" answers. Student knowledge becomes idiosyncratic: 30 different students may arrive at 30 different understandings or interpretations of a concept, all of which are not equally appropriate. Inappropriately applied, constructivist approaches may lead to the "abandonment" style of teaching (MacKinnon & Scarff-Seatter, 1997).

Several authors cite the importance of teacher educators' modeling constructivist approaches that engage students in interdisciplinary exploration, collaborative activity, and field-based opportunities for experiential learning, reflection, and self-examination (Kaufman, 1996; Kroll & LaBosky, 1996) if future teachers are to be able to employ these strategies in schools.

To derive culturally relevant and socially just pedagogy and practice from constructivist epistemologies, Martin (1994) and Vadeboncoeur (1997) urge teacher educators to deconstruct and scrutinize cultural assumptions that underlie various interpretations of constructivism to expose how social beliefs have influenced the development of theory and practices. Without such scrutiny, societal inequities and historical forms of oppression may be perpetuated in supposedly constructivist classrooms, and the very constraints on individual development constructivists seek to remove or ameliorate will be reinforced.

A final challenge faced by educators is the pitfall of regarding constructivism as the only viable theoretical framework for teaching and learning. It is one way of thinking about how knowledge and understanding are formed, but it is not the only way. Nor are various interpretations of constructivism necessarily incompatible with one another (MacKinnon & Scarff-Seatter, 1997; Oldfather, Bonds, & Bray, 1994). Prospective teachers should be exposed to varying perspectives and given opportunities to develop the discretion needed to choose most appropriately and the skills to implement their choices.

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Mary E. Dilworth, Director
Judy A. Beck, Associate Director
Ismat Abdal-Haqq, ERIC Clearinghouse (Author)

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96
2

Diversifying the Teaching Force: Preparing Paraeducators as Teachers

Michael Genzuk

Introduction

The current demographic makeup of our student and teaching populations, as well as the projections for the future, show a striking discontinuity between teacher and student diversity (American Association of Colleges for Teacher Education, 1994). The nation's nearly 500,000 paraeducators working in K-12 classrooms embody a promising source of prospective teachers who represent and may be more rooted in the communities they serve. Paraeducators are school employees whose responsibilities are either instructional in nature or who deliver other services to students. They work under the supervision of teachers or other professional personnel who have the ultimate responsibility for educational programs (Pickett, 1994). Paraeducator-to-teacher programs capitalize on the attributes that paraeducators bring to the program and the program streamlines their pathway into teaching. These programs foster stronger school/university collaboration, improved induction into teaching, and more graduated assumption of teaching roles as knowledge and skills are refined. Studies suggest that paraeducator-to-teacher program graduates bring a wealth of community and student knowledge to their practice, attributes that are highly regarded in today's diverse classrooms (Haselkorn & Fideler, 1996).

Paraeducators as a Source of Future Teachers

For several reasons, paraeducators have the potential to become the ideal teachers of our nation's students. They expand the pool of potential teachers from underrepresented groups. A large percentage of this population have been shown to be prospective teachers of color (Haselkorn & Fideler, 1996). School reformers have pointed to the lack of synchrony between home and school culture as a significant obstacle to minority student achievement (Brice Heath, 1986). Because paraeducators tend to know their students and communities well they help make the school experience less alienating and connect it to the students' cultural experience. In many cases they are native speakers of the students' languages and provide a sorely needed language resource. They bring with them a great deal of classroom experience and a sense of how children learn based on how they themselves learn.

Another compelling indication that paraeducators have great potential for being outstanding educators is the large number of such individuals currently employed in schools who have expressed a desire to become teachers. Survey research estimates that 52% of the Latino paraeducator population in Los Angeles schools aspired to become teachers before they had become paraeducators. After having worked as paraeducators for an average of 5 years, 75% now wish to become teachers (Genzuk, 1995).

High rates of teacher attrition, particularly in urban schools, have contributed to a wide variety of fiscal, as well as pedagogic concerns. Paraeducators, with already strong roots in the community, suggest a staying power that's critically needed (Hentschke, 1995). This not only provides stability and consistency to schools' instructional programs, but suggests the cost associated with support for paraeducator-to-teacher programs is more than offset by savings associated with lower attrition rates in teacher education programs and among newly hired teachers (Hentschke, 1995).

Barriers to Paraeducator Teacher Production

Data indicate four primary obstacles that, if mediated, may facilitate successful pathways for paraeducators attempting to receive teacher certification (Genzuk, Lavadenz, & Krashen, 1994).

Financial. Students of low socioeconomic status depend greatly, if not entirely, on financial aid to pursue degrees in higher education. Aid, however, is not easily available. There has been a shift from grants for minority students to loan programs. Understandably, many paraeducators are less inclined to incur more indebtedness. In addition, higher education institutions, from community colleges to 4-year institutions, have made notably few efforts to secure funding to increase their minority enrollment (Leighton, Hightower, & Wrigley, 1995).

Social. It appears that for many students, minority and white students alike, social factors may strongly influence their educational and occupational pursuits (Tinto, 1993; Genzuk, 1995). External communities (families, neighborhoods, and places of work) and their support, or lack thereof, may play a pivotal role in minority student success at the university. Such communities may differ from college communities in the values, norms, and behavioral and intellectual styles that characterize everyday life. As a result, the adaptation of behaviors and norms appropriate to college may be more difficult for minority students.

The majority of paraeducators are women who are also responsible for caring for a family. Lack of support and obligations imposed by spouses, parents, and children, in addition to other social pressures encountered by paraeducators, are often obstructive. Houston and Calderón (1991) point out that minorities often have no role models to emulate. Many are the first persons from their family to attend college, and emotional support and encouragement comes only from their peers at the college. For this reason it could be expected that persons from backgrounds with low rates of higher educational participation may face particularly severe barriers in attempting to complete degree programs. While pressures of family and peers for minority students may be no different in kind than those for other students, they may however, be more intense.

Academic. Though there is little direct evidence, there is reason to hypothesize

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that minority paraeducators attempting to become teachers will run into more academic problems than other teacher education candidates. For example, minority candidates have a lower than average pass rate on admissions tests for teacher education and on teacher competency tests (Gillis, 1991). The use of tests for teacher certification has reduced the certification rate disproportionately among minorities even more (Crawford, 1995).

External Communities. Many paraeducators find it daunting to accommodate the multiple demands of work, family, and studies. The obligations entailed in employment exemplify how conditions external to the university can be both detrimental and supportive to minority students. Previous studies have suggested obligations entailed in employment pull students away from participation in their college activities (Tinto, 1993). The effect of employment upon persistence depends in part on how the employer views college attendance. When employment is not irrelevant to but part of a larger career plan, the affects of work upon retention may be positive (Astin, 1975). In those situations, the demands of the external work place may direct the individual towards college-related activities rather than away. For paraeducators in a Los Angeles study, external demands at the work site (the school site) were not countervailing. Indeed, survey data indicated that work-site responsibility appears to have bolstered the individual's commitment to his or her educational and professional goals of becoming a teacher (Genzuk, 1995).

Conclusion

Critical to and essential for effective recruitment and retention of paraeducators into the teaching force are well-designed paraeducator-to-teacher programs. Programs designed for the typical college-bound student may not be appropriate. The literature suggests that such programs are advanced by considering the following factors:

Financial support—access to grants, scholarships, and other financial aid.

Social support—provision of programs and events for sensitizing the paraeducator's entire support community to the academic and social pressures they may encounter including from family, university faculty, school site personnel, and other external communities.

Academic enrichment—counseling, tutoring, mentoring, and extended programs for promising candidates who need expanded academic time frameworks to achieve.

School site assisted performance—improved working conditions (salary, benefits, job security); nurturing, supportive environment mediating career pathway into teaching including, direct mentoring.

Paraeducators provide a rich source of potential teachers. Teacher educators and policymakers are increasingly endorsing the concept of an elongated apprenticeship continuum as part of a new paradigm for the development of a professional teacher. The paraeducator-to-teacher model provides a promising example of that continuum.

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Michael Genzuk, University of Southern California (Author)
Mary E. Dilworth, Director
Judy A. Beck, Associate Director

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11

Early Field Experiences in Teacher Education

Leslie Huling

Prior to the 1980s, the dominant mode of teacher preparation in this country consisted of course work on a university campus followed by one semester of student teaching. Today, quality teacher preparation programs provide candidates with a wide variety of early field experiences in a variety of settings to lay the foundation for and to supplement the capstone or culminating field experience of student teaching. This Digest briefly examines some of the complexities and challenges related to early field experiences and shares findings about the nature and degree of early field experiences occurring in the nation's teacher preparation programs.

What Are Field Experiences?

Field experiences in teacher preparation are in a sense like the experiences provided to medical students in the active participatory roles of internships and residencies. Through field experiences, teacher candidates observe and work with real students, teachers, and curriculum in natural settings (i.e., PK-12 schools). Field experiences are typically distinguished from clinical experiences, which occur in more tightly controlled educational settings (i.e. clinics, laboratory schools, etc.). The culminating or capstone field experience in teacher preparation is typically student teaching in which the candidate gradually assumes total teaching responsibility under the joint supervision of a cooperating teacher, who is the teacher of record, and a university supervisor. Field experiences prior to the student teaching experience are commonly referred to as early field experiences.

A Historical Look at Field Experiences in Teacher Preparation

The rationale for field experience in teacher preparation is grounded in the work of John Dewey (1904; 1938) who spearheaded the progressive movement in the 1930s and emphasized learner-centered instruction. He was a strong advocate for the experiential training of teachers. Dewey viewed the teacher as learner, and thus the need for that learner to be provided experiences for constructing his or her own learning.

In spite of the visionary thinking of Dewey, until the early 1980s, the most prevalent field experience provided to teacher candidates was simply student teaching. Early field experiences, if they were provided at all, typically consisted of candidates being sent to observe in schools and classrooms. While these early attempts to provide field experiences for teacher candidates were clearly a step in the right direction, the experiences were often fragmented and lacking in coherence (Smith, 1992).

Within the past two decades, a number of national reports have stressed the need for major improvements in the preparation of teachers as a foundation for other educational reform efforts. The Carnegie Forum on Education and the Economy (1986), the Holmes Group (1986), the National Commission on Teaching & America's Future (1996), and others (National Commission on Excellence in Education, 1983; Goodlad, 1990; Darling-Hammond, 1997) have recommended that future teachers have more rigorous preparation and more authentic experiences to enable them to cope with the increasing complexity, challenges, and diversity of current schools and classrooms. What has been advocated is a more holistic conceptualization of the preservice teacher experience and increased collaboration between universities and public schools (Guyton & McIntyre, 1990; McIntyre, Byrd, & Foxx, 1996).

A Glimpse of the Complexities Surrounding Field Experiences

How and what teacher candidates learn from early field experiences are questions mired in complexity. Just as the typical person doesn't learn much about ice skating from watching the Olympics or performing heart surgery from observing a heart operation, sending teacher candidates to observe in schools doesn't result in the type of substantive learning needed to become a successful teacher. Careful guidance and mediation to help candidates focus on critical aspects of classroom teaching and interactions and to interpret what they see is necessary for candidates to benefit from field experiences. For example, professors can present candidates with a variety of classroom management strategies and then have them participate in classrooms and record the strategies they observe and the effects these strategies have on student behavior and performance. Following this experience, professors can debrief with candidates about what they observed and the implications of these experiences related to their own teaching and classroom management.

In a very real sense, the goal of the teacher preparation program is to provide the teacher candidate with the experiences necessary to build the complex schema required to be an effective classroom facilitator of teaching and learning. In addition to observing, these field experiences would include, but not be limited to, tutoring individual and small groups of students, preparing instructional materials, grading student work, and supervising students at assemblies and on field trips.

The difficulty of providing quality field experiences is increased when sheer numbers make it difficult to place each candidate with an outstanding teacher who can model the type of learner-centered instruction advocated by most teacher preparation programs. Also, it is important to provide cooperating teachers with formal preparation for working with teacher candidates and supporting their learning, but frequently there is little time and few resources available for this training (Slick, 1995). Teacher educators are faced with the perplexing dilemma of balancing the need to provide candidates with early field experiences in a variety of settings with the need to allow candidates time to become familiar enough with a setting to make it feasible for them to do more than simply observe.

Some teacher preparation programs have attempted to address these various complexities by delivering field-based programs on-site in schools, or by field-basing specific faculty members who deliver certain portions of the teacher preparation program in collaboration with public school educators. These arrangements most often occur in professional development schools (PDS), which have collaborative teacher preparation as one of the primary purposes. While the establishment of a PDS greatly facilitates the delivery of early field experiences to teacher candidates, it is a highly time- and labor-intensive endeavor that requires ongoing commitment, collaboration, and resources to maintain.

The AACTE/NCATE Survey on Clinical and Field Experiences

In spite of the complexities and challenges involved, teacher preparation programs across the country provide substantial amounts of early field experiences for teacher candidates in a variety of settings, according to the 1997 Joint Data Collection System (JDCS) Clinical and Field Experience Survey. This survey was an

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addendum to the JDCS, which is conducted annually by the American Association of Colleges for Teacher Education (AACTE) and the National Council for the Accreditation of Teacher Education (NCATE) (Huling, Raffeld, & Salinas, 1998). The addendum was completed by 490 (85%) of the institutions that completed and returned the 1997 JDCS Institutional Reports.

According to survey results, the vast majority of teacher candidates first engage in field experiences prior to their junior year in college. A total of 77% of elementary programs and 70% of secondary programs require candidates to first participate in field experiences in PK-12 settings during their first or second year of college. Candidates spend a substantial number of clock hours engaged in early field experiences, although elementary candidates spend more time in field experiences than secondary candidates. At the elementary level, 70% of programs report candidates spending more than 90 clock hours in early field experiences. At the secondary level, 49% of the programs reported candidates spending more than 90 clock hours, while 51% reported that they spend between 16 and 90 clock hours. The difference between the amount of time spent by elementary and secondary candidates is likely related to the fact that elementary teacher preparation programs typically require more credit hours of professional studies and emphasize the teacher as a child development specialist, while secondary preparation programs typically require more credit hours in the major content field and emphasize the teacher as a specialist in a specific academic discipline.

Teacher candidates participate in early field experiences in a variety of schools and classrooms. In elementary preparation programs, 77% of the candidates work in more than one PK-12 setting while 73% of secondary candidates participate in early field experiences in more than one PK-12 setting. Only 14 % of elementary programs and 16% of secondary programs place candidates in only one classroom for early field experiences. In addition to observing, candidates report doing a variety of other tasks during early field experiences. More than 75% of programs reported that both elementary and secondary candidates engage in teacher aide tasks (e.g., grading papers, bulletin boards), tutor individual students, teach small groups of students, and teach the whole class.

More than 90% of programs at both elementary and secondary levels report that university supervisors provide some degree of on-site supervision to candidates. The most common supervision model used in early field experiences is one in which the supervisor makes periodic on-site visits to candidates. This is the case in 89% of elementary programs and 87% of secondary programs. In 7% of the elementary programs and 4% of the secondary programs, supervisors are always on-site when candidates are in PK-12 settings. Most likely, these are the preparation programs that operate in PDSs.

Do Increased Field Experiences Make a Difference?

Common sense alone would indicate that candidates who receive increased amounts of field experience will be better prepared to deal with the complex realities of today's schools, classrooms, and students. For example, principals frequently report that candidates who were prepared in field-based programs perform in their first year of teaching more like second- or third-year teachers. Collectively, the anecdotal reports of candidates, teacher educators, and employers alike confirm the belief that more, and earlier, field experiences result in better prepared teachers. Now, a recent study conducted in Texas (Fleener, 1998) has provided evidence that candidates who receive increased amounts of field experience in their teacher preparation programs remain in the profession at significantly higher rates than those prepared through traditional campus-based programs. Fleener's study included 1,959 elementary teachers produced by three of the state's largest teacher-producing institutions, each of which was in the process of transitioning from traditional teacher preparation programs to field-based programs (Houston & Huling, 1998). About half of candidates in Fleener's study were prepared through newly implemented field-based programs and about half were prepared during the same years by the same institutions through the traditional teacher preparation program. The 1,959 candidates graduated and began their teaching careers in the years of 1993 to 1996. By fall 1996, only 4.8% of those prepared through field-based programs had left the profession compared to 12% of those prepared in traditional programs. These data indicate that field experiences are an important factor in the preparation of teachers and that candidates whose preparation involves increased amounts of field experience remain in the profession through the induction years in greater numbers than those who receive less field experience.

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Mary E. Dilworth, Director
Judy A. Beck, Associate Director
Leslie Huling, Southwest Texas State University (Author)

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The Education and Certification of History Teachers: Trends, Problems, and Recommendations

by the National Council for History Education

History teachers who know their subject matter well are indispensable to schools striving to hold students to higher academic standards. This is a major concern for teacher education in history, according to a recent national conference of teacher educators, academic historians, K-12 classroom history teachers, and members of state and local governing boards.

The major theme of the conference was that if, according to the standards-based strategy for democratic school reform, all students in every school are to be offered an equally solid and engaging study of history, then all teachers need equally rigorous preparation to teach them. The problems treated at the conference were how to explore the conditions under which subject matter mastery can be nurtured among history teachers, and how to determine the changes needed to bring about and sustain those conditions.

Suggested solutions pertained to better connections between history and education college faculty and the university and local schools. A six-part action plan was developed that centered on action by and for:

- teachers;
- education school faculty members and deans;
- university historians and department chairs;
- local school administrators and school committees/board members;
- representatives of state departments of education; and
- members of state education and university governing boards.

Teachers. Conferees recommended that prospective teachers of history in middle and high school should have a college major organized around main topics and significant questions in United States history, the history of Western civilization and of the world, and related studies in civics, geography, philosophy, literature, and the arts.

A further recommendation went beyond undergraduate preparation to the sphere of continuing education for practicing teachers: no matter how well prepared as undergraduates, teachers have a responsibility to themselves and to their students to continue their studies, both in state and local programs for professional development and on their own.

Moreover, the thousands of history and social studies teachers now in classrooms whose college preparation in history is weak must undertake intensive professional development, including summer institutes, to deepen their knowledge and pleasure in teaching history.

Colleges of Education. Conferees recommended that college of education faculty be given the authority to reduce the required number of generic methods courses in order to offer more courses taught by teams of subject scholars and experienced teachers in the field.

Furthermore, participants recommended that education faculties, together with colleagues from history departments, should redesign the undergraduate experience of prospective teachers to achieve a better balance between education courses and subject matter courses in history.

University administrators and trustees need to revise policies that make it difficult for education faculty members to mend the "jagged disconnect" between subject matter and pedagogy by joining colleagues in history departments in merged courses, doing student-teacher mentoring with historians and master teachers, and working with historians on professional development for teachers at neighboring schools, preferably at school sites.

University Historians. These points were made by and to university historians and department chairs: historians must press university administrators and trustees to establish sustainable personnel policies that end the disincentives for history faculty members to work with colleagues in other departments to educate and mentor prospective teachers. In addition, history faculties must review the character and requirements of their major and minor programs (with advice from graduates who have become classroom teachers). General education requirements for the freshman and sophomore years did not escape scrutiny; conferees recommended that historians must join their colleagues in the arts and sciences to refocus general education on basic core courses, including for all students courses in United States history, Western civilization, and world history. Teachers with bachelors' degrees, particularly those working in middle and high school, should not have last studied topics in world history as long ago as Grade 9 or 10. Some specific recommendations were that history faculties must be authorized to:

- reduce the number of highly specialized courses for undergraduates;
- provide more upper-level, broad-based courses in major eras of United States history, the history of Western civilization, and of the world;
- model the use of primary sources and student inquiry in their own courses; and

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For further information, contact Elaine Wrisley Reed, Executive Director, National Council for History Education, at 26915 Westwood Road, Suite B-2, Westlake, Ohio 44145 or phone (440) 835-1776. The National Council for History Education convened the conference *Preparing Knowledgeable and Effective History Teachers* in partnership with the University of Wisconsin System Board of Regents with major funding from The Lynde and Harry Bradley Foundation.

- forge regular working relationships with history teachers in neighboring communities.

State Departments of Education. Conferees urged state departments of education to redesign teacher licensure and recertification examinations to test subject mastery. The examinations should be formidable; that is, they should be comparable to exemplary final examinations at the university level and should include evaluation of writing and speaking ability.

State departments of education must consistently devote their priorities, review of regulations, and technical assistance to support steady, long-term local implementation of the state academic standards, which pertain to the core subjects and how to teach them, including history.

In regard to professional development in history, state departments need to collaborate with local school districts and institutions of higher education to set criteria for approval of professional development providers of state or locally funded programs for classroom teachers in academic subjects. Such criteria should include the providers' academic qualifications and experience and the relevance of proposed programs to the curricular goals of states and localities.

Local School Administrators and School Boards. To the extent that state boards and departments of education establish common curricular requirements, content standards, and performance benchmarks for statewide assessment of student achievement, state support and technical assistance must be available to local districts for a) implementing new curricula and courses in history; b) refreshing and extending teacher content knowledge in history; and c) instructing and re-integrating teachers who are displaced by curricular changes.

School districts should establish regular procedures and criteria for evaluating teacher applicants who will be teaching history courses, including exploration of academic records and references for the history courses taken in undergraduate programs and interviews dealing with candidates' scholarly interests in the various areas of historical knowledge.

Governing Boards. Members of state education and university governing boards must take responsibility for insuring the implementation of the above changes, focusing on those that state and local officers and university presidents and deans for many reasons often cannot make on their own. Vital among these necessary changes are stricter college admissions requirements, specific core requirements for the general education of freshmen and sophomores, reformed department majors, broader doctoral programs to prepare college teachers, and revised incentives for faculties of education and arts and sciences.

Lay board members should engage and educate the media and inform the public and its elected officials on questions fundamental to the quality and equality of educational opportunities.

Conclusions. The primary goal of all six spheres that were identified as fundamental in the undergraduate and continuing education of teachers is competence, together with persistence in the face of a number of likely defeats. While each "sphere of influence" and action was identified separately, conference participants noted that the spheres overlapped and interacted at almost every turn; therefore, each group is urged to consider the recommendations for all of the groups, not only their own. While governing boards may be held accountable for the quality of their institutions, historians should recognize that the failure of any one sector is enough to cause the failure of all.

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Implementing Performance Assessment in the Classroom

by Amy Brualdi, ERIC/AE

Introduction

If you are like most teachers, it probably is a common practice for you to devise some sort of test to determine whether a previously taught concept has been learned before introducing something new to your students. Probably, this will be either a completion or multiple choice test. However, it is difficult to write completion or multiple choice tests that go beyond the recall level. For example, the results of an English test may indicate that a student knows each story has a beginning, a middle, and an end. However, these results do not guarantee that a student will write a story with a clear beginning, middle, and end. Because of this, educators have advocated the use of performance-based assessments.

Performance-based assessments "represent a set of strategies for the . . . application of knowledge, skills, and work habits through the performance of tasks that are meaningful and engaging to students" (Hibbard and others, 1996, p. 5). This type of assessment provides teachers with information about how a child understands and applies knowledge. Also, teachers can integrate performance-based assessments into the instructional process to provide additional learning experiences for students.

The benefit of performance-based assessments are well documented. However, some teachers are hesitant to implement them in their classrooms. Commonly, this is because these teachers feel they don't know enough about how to fairly assess a student's performance (Airasian,1991). Another reason for reluctance in using performance-based assessments may be previous experiences with them when the execution was unsuccessful or the results were inconclusive (Stiggins, 1994). The purpose of this digest is to outline the basic steps that you can take to plan and execute effective performance-based assessments.

Defining the Purpose of the Performance-Based Assessment

In order to administer any good assessment, you must have a clearly defined purpose. Thus, you must ask yourself several important questions:

- What concept, skill, or knowledge am I trying to assess?
- What should my students know?
- At what level should my students be performing?
- What type of knowledge is being assessed: reasoning, memory, or process (Stiggins, 1994)?

By answering these questions, you can decide what type of activity best suits you assessment needs.

Choosing the Activity

After you define the purpose of the assessment, you can make decisions concerning the activity. There are some things that you must take into account before you choose the activity: time constraints, availability of resources in the classroom, and how much data is necessary in order to make an informed decision about the quality of a student's performance (This consideration is frequently referred to as sampling.).

The literature distinguishes between two types of performance-based assessment activities that you can implement in your classroom: informal and formal (Airasian, 1991; Popham, 1995; Stiggins, 1994). When a student is being informally assessed, the student does not know that the assessment is taking place. As a teacher, you probably use informal performance assessments all the time. One example of something that you may assess in this manner is how children interact with other children (Stiggins, 1994). You also may use informal assessment to assess a student's typical behavior or work habits.

A student who is being formally assessed knows that you are evaluating him/her. When a student's performance is formally assessed, you may either have the student perform a task or complete a project. You can either observe the student as he/she performs specific tasks or evaluate the quality of finished products.

You must beware that not all hands-on activities can be used as performance-based assessments (Wiggins, 1993). Performance-based assessments require individuals to apply their knowledge and skills in context, not merely completing a task on cue.

Defining the Criteria

After you have determined the activity as well as what tasks will be included in the activity, you need to define which elements of the project/task you shall to determine the success of the student's performance. Sometimes, you may be able to find these criteria in local and state curriculums or other published documents (Airasian, 1991). Although these resources may prove to be very useful to you, please note that some lists of criteria may include too many skills or concepts or may not fit your needs exactly. With this in mind, you must be certain to review criteria lists before applying any of them to your performance-based assessment.

You must develop your own criteria most of the time. When you need to do this, Airasian (1991, p. 244) suggests that you complete the following steps:

1. Identify the overall performance or task to be assessed, and perform it yourself or imagine yourself performing it
2. List the important aspects of the performance or product.

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3. Try to limit the number of performance criteria, so they can all be observed during a pupil's performance.
4. If possible, have groups of teachers think through the important behaviors included in a task.
5. Express the performance criteria in terms of observable pupil behaviors or product characteristics.
6. Don't use ambiguous words that cloud the meaning of the performance criteria.
7. Arrange the performance criteria in the order in which they are likely to be observed.

You may even wish to allow your students to participate in this process. You can do this by asking the students to name the elements of the project/task that they would use to determine how successfully it was completed (Stix, 1997).

Having clearly defined criteria will make it easier for you to remain objective during the assessment. The reason for this is the fact that you will know exactly which skills and/or concepts that you are supposed to be assessing. If your students were not already involved in the process of determining the criteria, you will usually want to share them with your students. This will help students know exactly what is expected of them.

Creating Performance Rubrics

As opposed to most traditional forms of testing, performance-based assessments don't have clear-cut right or wrong answers. Rather, there are degrees to which a person is successful or unsuccessful. Thus, you need to evaluate the performance in a way that will allow you take those varying degrees into consideration. This can be accomplished by creating rubrics.

A rubric is a rating system by which teachers can determine at what level of proficiency a student is able to perform a task or display knowledge of a concept. With rubrics, you can define the different levels of proficiency for each criterion. Like the process of developing criteria, you can either utilize previously developed rubrics or create your own. When using any type of rubric, you need to be certain that the rubrics are fair and simple. Also, the performance at each level must be clearly defined and accurately reflect its corresponding criterion (or subcategory) (Airasian, 1991; Popham, 1995; Stiggins, 1994).

When deciding how to communicate the varying levels of proficiency, you may wish to use impartial words instead of numerical or letter grades (Stix, 1997). For instance, you may want to use the following scale: word, sentence, page, chapter, book. However, words such as "novice," "apprentice," "proficient," and "excellent" are frequently used.

As with criteria development, allowing your students to assist in the creation of rubrics may be a good learning experience for them. You can engage students in this process by showing them examples of the same task performed/project completed at different levels and discuss to what degree the different elements of the criteria were displayed. However, if your students do not help to create the different rubrics, you will probably want to share those rubrics with your students before they complete the task or project.

Assessing the Performance

Using this information, you can give feedback on a student's performance either in the form of a narrative report or a grade. There are several different ways to record the results of performance-based assessments (Airasian,1991; Stiggins,1994):

- *Checklist Approach* When you use this, you only have to indicate whether or not certain elements are present in the performances.
- *Narrative/Anecdotal Approach* When teachers use this, they will write narrative reports of what was done during each of the performances. From these reports, teachers can determine how well their students met their standards.
- *Rating Scale Approach* When teachers use this, they indicate to what degree the standards were met. Usually, teachers will use a numerical scale. For instance, one teacher may rate each criterion on a scale of one to five with one meaning "skill barely present" and five meaning "skill extremely well executed."
- *Memory Approach* When teachers use this, they observe the students performing the tasks without taking any notes. They use the information from their memory to determine whether or not the students were successful. (Please note that this approach is not recommended.)

While it is a standard procedure for teachers to assess students' performances, teachers may wish to allow students to assess them themselves. Permitting students to do this provides them with the opportunity to reflect upon the quality of their work and learn from their successes and failures.

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97
9

New Directions in Teacher Evaluation

Eileen Mary Weiss and Stephen Gary Weiss

Approaches to Evaluation

Principals and teachers are becoming frustrated with conventional evaluation practices typically used to determine teacher effectiveness and, thus, tenure and promotion (Brandt, 1996). These evaluation practices stress accountability and frequently are based upon teacher-directed models of learning such as lecture, demonstration, recitation, and modeling designed primarily to transmit knowledge and cognitive skills to students. Such evaluations often emphasize criteria derived from studies in the 1980s in which specific teaching behaviors in a direct instruction format predict high scores on standardized tests (Brophy & Good, 1986). Principals often use minimal teaching competencies (associated with direct instruction) as criteria to judge teachers' performance (Sclan, 1994). These evaluation procedures risk becoming meaningless exercises for the majority of teachers who are already performing at or beyond the minimal level (McLaughlin, 1990; Searfoss & Enz, 1996).

Traditional summative evaluation models are not necessarily structured to support dynamic, regenerative school environments. Evaluation procedures that focus on complying with regimented sets of behaviors do not encourage teacher involvement in their self-development or in the development of collaborative school cultures. New systems that include evaluation as an authentic part of teachers' everyday practice, with supports for regular reflection, are naturally taking root, as hierarchical controlling structures give way to environments that sustain collegial interactions (Sclan, 1994).

During the last decade, an increasing number of teachers have been developing multi-dimensional, integrated learning environments where knowledge "depends on the values of the persons working with it and the context within which that work [is] conducted" (Lotto & Murphy, 1990, p.82, cited in Sclan, 1994). Consistent with the goals of education for students to become life-long learners and thoughtful decision-makers in our democratic society, "constructivist" perspectives view schools as diverse learning communities where teachers must possess a broad repertoire of skills and knowledge consistent with the holistic needs of students (Dewey, 1900 and 1902/1990). Direct instruction is only one of many useful teaching strategies; however, it underlies traditional evaluation models, which are too narrow for assessing the performance of constructivist teachers or enhancing their practice.

Administrators and teachers need access to comprehensive evaluation models that capture the complexities of teaching. Congruent with an expanding knowledge base of teaching and learning, performance standards are being developed that lead to reconfigured assessment designs requiring an array of reflective, analytic skills.

New Assessments Created

Creation of the National Board for Professional Teaching Standards (NBPTS) in 1987 has promoted discussion of more meaningful standards for teachers and resulted in developing a performance-based assessment system to recognize advanced competence among *experienced teachers*. The NBPTS recognizes that students learn by constructing new knowledge built on prior understandings, and that good teachers deliberate on the interaction of student strengths and needs as well as learning contexts and content. The National Commission on Teaching & America's Future (NCTAF), which created a blueprint for recruiting, preparing, and supporting excellence in all of America's schools, recommends that the NBPTS's standards become the cornerstone for teacher evaluation (Darling-Hammond, 1996; NCTAF, 1996). The NBPTS's assessments help teachers reflect and learn from their practice. They are based on the following propositions that educators agree are essential to accomplished teaching:

1. Teachers are committed to students and their learning;
2. Teachers know the subjects they teach and how to teach those subjects to students;
3. Teachers are responsible for managing and mentoring student learning;
4. Teachers think systematically about their practice and learn from experience;
5. Teachers are members of learning communities.

A set of model performance-based licensing standards for *new teachers* that are compatible with the NBPTS's certification standards has been developed by the Interstate New Teacher Assessment and Support Consortium (INTASC), a program of the Council of Chief State School Officers. Working in collaboration with teachers and teacher educators, state licensing officials, National Council for the Accreditation of Teacher Education (NCATE), and other stakeholders, INTASC has created a set of core standards that define the knowledge, dispositions, and performances essential for all beginning teachers (INTASC, 1992).

Thirty-three states are participating in translating the 10 core standards into discipline-specific standards in each of the major K-12 content areas. Eleven of these states are piloting prototype performance assessments (INTASC, 1995, 1996, n.d.). The new assessments are modeled on NBPTS' portfolios, which include videotapes and analyses of teaching, samples of lessons, assignments, and student work. Teachers are asked to demonstrate how their teaching relates to their students' learning. The assessments are also matched with new standards for each discipline (e.g., the new National Council for Teachers of Mathematics standards). In the pilot assessments, teachers provide evidence of how they foster higher-level reasoning and problem-solving skills (NCTAF, 1996).

The NBPTS and INTASC assessments are based on evidence of constructive practice and evaluate how specific teaching behaviors contribute to particular students' learning over time (NCTAF, 1996). Using these guidelines, evaluation becomes part of a reflective process in which teaching is studied on a regular basis with colleagues for purposes of continual growth, rather than static formalities determined outside the classroom. A single observation or principal's report alone provides an incomplete picture of what teachers do (Peterson, 1990). Teaching needs to be understood dynamically in its multiple contexts and performance data need to be gathered from diverse sources.

Promoting Improvement and Removing Incompetent Teachers

As part of the movement toward more professionally grounded and performance-based standards for evaluation, several local and state initiatives incorporate peer review and assistance. These approaches appear to be more effective than traditional evaluation systems at both improving and letting go of teachers.

American Federation of Teachers and National Education Association locals have initiated peer review and assistance programs in districts such as Rochester, New York; Toledo, Columbus, and Cincinnati, Ohio; and Seattle, Washington (Career in Teaching Joint Governing Panel, 1996; Columbus Education Association, 1997; NCTAF, 1996; Toledo Federation of Teachers, 1996). Because these systems rely on teachers having increased opportunities for decision making and collaboration with colleagues, the process of evaluation becomes an integral part of everyday

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practice. Altering the process by which teachers are evaluated is providing the impetus for deeper structural changes in their responsibilities. For example, through a rigorous process, a governing panel of teachers and administrators selects consulting teachers who mentor untenured teachers and intervene with tenured teachers having difficulty. Along with increased autonomy comes greater accountability. In each program, standards have been strengthened for obtaining tenure and remaining in teaching (NCTAF, 1996). According to NCTAF (1996), the success of peer review and assistance programs can be attributed to (1) more useful measures of performance, (2) intensive assistance, and (3) expertise of the consulting teachers who are matched by subject area and grade level with the teacher being helped.

The Toledo Plan, started in 1981, was the forerunner for current peer assistance and review programs. Soon after its inception, a Rand report concluded that "the Toledo innovative approach to teacher evaluation has created a new dynamic for improvement based on teacher-administrator collaboration in its public schools" (Wise, Darling-Hammond, McLaughlin, & Bernstein, 1984). All newly hired teachers (designated as interns) are assigned a consulting teacher (mentor teacher) by the Intern Board of Review. The process includes mutual goal setting using classroom observations and follow-up conferences. A nonprobationary teacher may be assigned intervention when the principal and union building committee concur. In Toledo, and a similar Cincinnati program, about one-third of the teachers referred to intervention each year have left teaching by the end of the year. In each program, more teachers have received help and improved or have been dismissed than under traditional administrative evaluation programs.

Some districts, such as Rochester and Cincinnati, have begun to develop career paths that associate salary increments with satisfactory performance. In Rochester's Career in Teaching (CIT) program, teachers who do not meet professional standards do not receive salary increases and are candidates for the intervention process. The Rochester system relies on the standards and portfolio processes that are compatible with NBPTS. The CIT program includes the Performance Appraisal Review for Teachers (PART), which requires teachers to reflect on five areas of behavior: pedagogy, content, school quality, home involvement, and professional development. Tenured teachers select peer reviewers for their summative appraisal, which is conducted every third year.

New teachers in Rochester are observed 3 times a year by a supervisor (principal or assistant) for the first 3 years. However, most first-year teachers participate in the mentor intern program in which they are observed by a lead teacher. The mentor typically visits the classroom more than 40 times during the year and attends parent meetings and other professional events with the intern (T. Gillett, personal communication, March 2, 1998).

Rochester's teacher evaluation system supports a career path with steps from the initial internship to "residency," to professional teacher status, and finally to lead teacher status. Tenure is granted only after rigorous evaluation of performance by administrator and peer review in the first few years of teaching. Advanced certification from NBPTS may qualify teachers for another salary step and/or for position of lead teacher (Darling-Hammond, 1996).

Several state-level initiatives are leading reforms in teacher evaluation. Maine, Wisconsin, Iowa, and Minnesota have incorporated the INTASC standards into their licensing procedures and have encouraged universities to pilot performance-based assessments using these standards (Darling-Hammond, 1997). Among the states that are pioneering peer assistance and review, Connecticut has incorporated the new INTASC standards into its performance-based licensing system and is developing portfolio assessments modeled on those of NBPTS (Darling-Hammond, 1997).

Although evaluating and rewarding teacher performance is arguably a local school or district responsibility, the matter of removing incompetent teachers has received attention from the federal government. During 1997 and 1998 as the Congress considered amendments to the Higher Education Act, lawmakers noted the need for administrators to remove unqualified teachers and included provisions to allow states to use federal funds to offer teachers professional development opportunities and to "expeditiously remove incompetent or unqualified teachers" [Higher Education Amendments of 1998, Title II, Sec. 202(d)(5)].

Conclusion

The next generation of evaluation systems will further integrate teacher accountability with professional growth. Eisner (1992) conceives of evaluation as inherently part of teachers' everyday work life. Evaluation needs to be participatory and reflective in order to be meaningful for teachers. Reform of teacher evaluation systems is already supporting the success of broader school reform efforts, which include the requirements of teachers' evolving roles—the goal of these changes being meaningful learning experiences for our children.

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Mary E. Dilworth, Director
Judy A. Beck, Associate Director
Eileen Mary Weiss, Long Island University and Stephen Gary Weiss, New York University (Authors)

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ERIC DIGEST

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Peer Review of Teachers

By Elizabeth Hertling

Recently, Massachusetts implemented a new teacher-licensing exam that contained an eleventh-grade-level literacy skills test. More than 55 percent of the teacher candidates, all college seniors or graduates, initially failed to pass (AFT and NEA 1998). Incidents such as these have fueled the public's desire for a greater accountability in education—and in teachers. How can we ensure teacher quality?

For many, peer review is the answer. While peer review has been practiced in a handful of districts since the 1980s, it attracted renewed attention recently, when delegates to the NEA's convention voted to drop their longstanding opposition to peer review. This is part of the union's new unionism, in which they advocate teachers taking greater responsibility for school quality (Bradley, June 1998).

Peer review stepped into the national spotlight even more recently with California's peer assistance and review law, which allocates $41 million in incentive funds for districts that negotiate peer-review programs by July 1, 2000, and threatens to withhold up to $400 million in aid from districts that miss a January 1, 2000, deadline (Johnston 1999).

What Is Peer Review?

Peer review is often linked to peer assistance, which helps new and veteran teachers improve their knowledge and skills. Experienced consulting teachers serve as mentors to new teachers or to veteran teachers who are experiencing problems unrelated to absenteeism or substance abuse. By providing support through observing, sharing ideas and skills, and recommending useful materials for study, consulting teachers strive to improve teacher quality (AFT and NEA).

In peer-review programs, consulting teachers conduct formal evaluations and recommend whether the participating teacher should be retained or let go. A common misconception regarding peer review is that consulting teachers have the final authority to make decisions regarding employment. In reality, while the local union shares responsibility with the school district to review teachers' performance and make recommendations, the final employment decision is made by the district administrator and the board of education (AFT and NEA).

Most peer review does not exist without some form of peer assistance. "Peer review without intensive peer assistance for the teachers in the program does not represent sound educational policy," state the AFT and the NEA. While much attention has focused on the idea of teachers helping to dismiss incompetent colleagues, most programs devote more time and resources to mentoring new teachers. Bob Chase, president of the NEA, notes, "To characterize peer assistance and review as getting rid of bad teachers... is a gross misrepresentation of what it's all about" (Bradley, June 1998).

What Are Some Examples of Peer-Review Programs?

One well-known example of peer review exists in Columbus, Ohio. Created in 1986, the Columbus Peer Assistance and Review (PAR) Program serves 4,800 teachers. The PAR program requires all new teachers, even those with previous teaching experience, to work with a consulting, or mentor, teacher. Struggling experienced teachers can enter the program either voluntarily or through teacher or administrator recommendation (Gutloff).

Consulting teachers are released from the classroom for three years, and after serving their term return to teaching. For reviewing and providing assistance to their colleagues, they receive a stipend equal to 20 percent of their base pay. They are required to make at least twenty visits to the classroom and conduct one-on-one conferences with the participating teacher to help set goals. At the end of the year, consulting teachers recommend to a panel whether the employment of the new and veteran teachers in their caseload should be continued (Gufloff).

The results? Twenty percent of veteran teachers who go through intervention leave the school system (Gutloff). Eighty percent of new teachers are still on the job five years later, while in other urban districts without peer review, 50 percent of new hires leave after five years (Bradley, June 1998).

The NEA affiliate in Toledo, Ohio, pioneered peer review in 1981, creating the Toledo Plan. Praised by the National Commission on Teaching and America's Future, the Toledo Plan is one of the best-known peer-review programs in the country. Similar to PAR, new teachers as well as veteran teachers are assisted and evaluated by consulting teachers. However, new teachers also have the option of continuing to meet with their mentor during their second year of teaching as well (AFT and NEA).

Unlike most peer-review programs, Toledo's does not exist in conjunction with periodic principal evaluations. In January 1998, the program was contested when principals argued that 41 percent of teachers in the district weren't evaluated regularly. In a compromise, principals are now allowed to refer teachers to the program instead of having to seek union approval (Bradley, January 1998).

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What Are the Potential Benefits of Peer Review?

The National Commission on Teaching and America's Future claims that more teachers have received help and more incompetent teachers have been dismissed under peer review than under traditional methods of evaluation. In Cincinnati, almost twice as many teachers were dismissed under peer review as under administrator evaluations (U.S. Department of Education 1998).

Supporters of peer review say that it is superior to traditional principal evaluation, which is often hurried and inadequately measures teacher performance. Smith and Scott (1990) note that "evaluation strategies that rely on standardized checklists and other bureaucratic methods continue to be widely used even though they contribute little to teacher growth." The NEA and AFT argue that consulting teachers impose higher standards than principals do "because they know full well that they suffer the consequences of incompetent colleagues in immediate and demoralizing ways." Along with the higher standards also comes ample opportunity for teachers to improve; as long as teachers are making progress, most programs allow them to stay in intervention.

Under peer review, teachers take a more active role in their profession, advocates contend. Tom Mooney, president of the Cincinnati Federation of Teachers, believes teachers—and their unions—need to take more responsibility to self-police their profession: "It's pretty tough to say that we ought to have a predominant say in programs, curriculum, methods, and books, and then say the review of professional practice is somebody else's job" (Bradley). In addition, Smith and Scott say peer review transforms teachers and principals from adversaries to allies in improving teaching standards and combats the climate of isolation that exists in many schools.

What Are the Potential Problems of Peer Review?

Critics of peer review say that it presents legal problems for local union affiliates. In collective-bargaining states, consulting teachers could be classified as supervisors and loose their bargaining-unit status. Simpson (1997) argues that local affiliates can avoid this problem by negotiating with the school district to include a clause that allows consulting teachers to remain in the bargaining unit. The NEA advises affiliates to make this a prerequisite when setting up a peer-review program.

Others criticize peer review because they say it conflicts with the union's duty of fair representation. Critics worry that peer review will present a conflict of interest for the union (Simpson). The NEA and AFT argue that the union is not obliged to handle every member's grievance, but must instead be fair and consistent. In Cincinnati, teacher grievances arising from peer review are handled separately from the joint union-district panels governing the program, thus avoiding conflicts with fair representation (Bradley, June 1998).

Critics also say that peer review does not address the real problems that lie behind teacher quality. Wroth (1998) argues that unions should focus instead on tenure laws, which cost the average district $60,000 and two to three years to fire one teacher.

Others say administrators are already trained and paid to evaluate, and should be allowed to do their job. Wroth argues that if principals cannot give adequate evaluations, then reform should focus on strengthening principals' skills. He asserts that "good schools need strong principals, but they rarely get them in a system where principals know they aren't responsible for the quality of their teachers."

What Is the Future of Peer Review?

The new law in California has many talking about the future of peer review. Bradley (June 1998) says the aspect of peer review that is likely to become important in the future is its ability to retain new teachers longer through its first-year intern programs. As student enrollment continues to grow and increasing numbers of teachers reach retirement, districts must continually hire more and more new teachers.

Overall, the future of peer review remains uncertain. Currently, only a handful of districts practice peer review, making it difficult to draw definitive conclusions. Peer-review programs require a high level of union-management trust and cooperation, which is sometimes difficult to achieve. Despite this and other potential problems, for some school districts and now the state of California, the potential benefits of peer review are considered to outweigh its difficulties.

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Proclaiming and Sustaining Excellence

Assessment as a Faculty Role

Karen Maitland Schilling and Karl L. Schilling

We are now over 10 years into the most recent wave of interest in assessment in higher education. In many states, publicly supported institutions of higher education have developed assessment programs in response to mandates from coordinating boards. All the regional accrediting associations articulate expectations for assessment, and attention to assessment has moved beyond publicly supported institutions into the private sector. National surveys of leaders in higher education suggest that assessment has been institutionalized quite broadly in American higher education.

These same surveys, however, suggest that campus leaders remain unconvinced about the real benefits of externally mandated assessment and fear misuse of its results. Moreover, although campuses nationwide (with a few notable exceptions) have responded to expectations for the development of assessment programs, faculty have not yet in any substantial numbers recognized and embraced local assessment efforts.

Proclaiming and Sustaining Excellence: Assessment as a Faculty Role explores the various sources of faculty's resistance to assessment and suggests ways to approach assessment that are more congenial to the traditional faculty role. In addressing administrators and faculty, the authors identify major conceptual, methodological, and policy advances over the past decade that may facilitate the faculty's greater engagement with assessment. Administrators are provided with useful frameworks for understanding the faculty's resistance and suggestions for approaches to assessment that respond to these sources of resistance. Faculty are provided with ways of thinking about assessment that comport more naturally with their traditional understandings of the faculty role in the academy.

What Advances in Assessment Make It More Congenial to Faculty?

Eight major shifts have occurred in the broad frameworks that have informed assessment practice: **(1)** focusing on the development of talent rather than simply displaying resources; **(2)** moving away from assuring minimal competency; **(3)** broadening the focus beyond linear, goal-centered approaches; **(4)** highlighting epistemological differences among the disciplines; **(5)** redirecting the focus to students and their learning processes; **(6)** making direct ties to teaching practice; **(7)** thinking of improvement as a continuing agenda; and **(8)** attending to the politics underlying judgments of effectiveness. Each of these broad theoretical shifts has shaped developing assessment practice to make it more congenial to faculty interests and dispositions.

Five broad changes in practice or assessment methods are also discussed: **(1)** fitting measures to a local context; **(2)** seeking convergence of multiple measures; **(3)** involving new disciplinary perspectives; **(4)** valuing authenticity; and **(5)** distinguishing between measurement and judgment.

Changing policies governing assessment include **(1)** changing notions of accountability; **(2)** the move to performance indicators; **(3)** barriers to the institutionalization of assessment; **(4)** false starts that incur hostility from the faculty; and **(5)** significant inroads on campuses toward the acceptance of assessment.

How Have Different Institutions Approached Assessment?

Practices at several institutions have been cited repeatedly in the literature on assessment over the past two decades. Specific institutional contexts and cultures have enabled or fostered the development of very different approaches to assessment at each institution. Six different institutional approaches are described: **(1)** assessment as part of an institution's fabric; **(2)** assessment as related to accountability; **(3)** assessment as an administrative service; **(4)** assessment as scholarship; **(5)** assessment as an opportunity for teaching; and **(6)** assessment as an add-on responsibility. Campuses where assessment falls into one of these categories are discussed in terms of the role faculty play in assessment.

How Can Assessment Be Viewed as a Faculty Role?

Six conditions are necessary if faculty are to view assessment as an integral part of their role:

1. Assessment must be embedded in a fiscal and policy context that supports innovation under administrative leadership providing vision and support.
2. Assessment must be grounded in significant questions that faculty find interesting.
3. Assessment must rely on evidence and forms of judgment that disciplinary specialists find credible.
4. Assessment must be rooted in a language and metaphors appropriate to the context.
5. Assessment must be identified as a stimulus to reflective practice.
6. Assessment must accommodate the nature of faculty life in the academy.

Proclaiming and Sustaining Excellence concludes by offering a set of principles for developing effective assessment programs that will engage faculty in meaningful assessment.

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Digest

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Professional Development of Foreign Language Teachers

Joy Kreeft Peyton, Center for Applied Linguistics

The foreign language teaching profession today is faced with increasing enrollments and a shortage of qualified teachers. At the same time, a rapidly changing student population, nationwide education reform, and the development of national standards for foreign language learning are placing a number of new demands on foreign language teachers. Curtain and Pesola (1994) suggest that foreign language teachers today "require a combination of competencies and background that may be unprecedented in the preparation of language teachers" (p. 241) and that strong professional development is critical.

Challenges for Foreign Language Teachers

Curtain and Pesola (1994) and Tedick and Walker (1996) list a number of factors that make the teaching of foreign languages especially challenging and emphasize the need for strong professional development.

- The cultural, socioeconomic, linguistic, and academic diversity typical in today's student population requires foreign language teachers to work with students whose needs, educational experiences, and native language skills are very different from those of students they have typically taught. For example, some students entering foreign language classrooms grew up speaking the target language at home (see Valdés, 1995).
- The variety of reasons students have for learning foreign languages and the different ways they approach this learning require that foreign language curricula and instruction address a range of student goals and learning styles.
- The current emphasis on exclusive use of the target language in the classroom requires that teachers have strong language skills.
- The emphasis on thematic learning demands that teachers be skilled in the thematic areas explored, competent in the vocabulary related to these areas, responsive to student interests in various topics, and able to work in teams with content-area teachers.
- The emphasis on collaborative learning and student self-directed learning requires that teachers be able to act as facilitators, guides, counselors, and resources, not just as language experts.
- The increase in foreign language enrollments and the shortage of qualified teachers may require foreign language teachers to teach at more grade levels than they have in the past.
- The emphasis on technology for language learning and teaching requires teachers to keep informed about new technologies and their instructional uses.

Skills and Knowledge Foreign Language Teachers Need

In addition to demonstrating "competencies in the general areas of education, interpersonal skills, and professional education" (Met, 1989, p. 177), good foreign language teachers need the following:

- A high level of language proficiency in all of the modalities of the target language—speaking, listening, reading, and writing.
- The ability to use the language in real-life contexts, for both social and professional purposes.
- The ability to comprehend contemporary media in the foreign language, both oral and written, and interact successfully with native speakers in the United States and abroad (Phillips, 1991).
- A strong background in the liberal arts and the content areas.
- Understanding of the social, political, historical, and economic realities of the regions where the language they teach is spoken.
- Pedagogical knowledge and skills, including knowledge about human growth and development, learning theory and second language acquisition theory, and a repertoire of strategies for developing proficiency and cultural understanding in all students (Guntermann, 1992).
- Knowledge of the various technologies and how to integrate them into their instruction.

Some states have developed lists of the competencies that foreign language teachers should have, the experiences they need for developing those competencies, and resources that are available to aid in their professional development. One such resource for elementary and middle school teachers is the *Elementary School (K-8) Foreign Language Teacher Education Curriculum*, developed by the North Carolina Department of Public Instruction and the Center for Applied Linguistics (1992). (See also ACTFL, 1988; Curtain & Pesola, 1994, pp. 245-250; and Glisan, 1996, pp. 73-75, for detailed lists of teacher competencies.)

Continuing Development of Knowledge and Skills

Foreign language teachers must maintain proficiency in the target language and stay up to date on current issues related to the target culture. Regardless of the skills and knowledge that foreign language teachers possess when they commence teaching, maintenance and improvement must be an ongoing process. In most states, teachers must continue to accumulate academic credits, while teaching, in order to keep their teaching license current. This can be done through evening courses, summer seminars, lectures, or workshops offered by professional associations or universities. Phillips (1991) outlines a number of formal and informal ways that teachers can improve their language proficiency and cultural knowledge, including participation in study and travel abroad programs, summer institutes and seminars, and informal opportunities that can be arranged locally (such as immersion weekends or monthly dinners where current events and other issues are discussed in the target language). Tedick and Tischer (1996) describe a summer language immersion program for preservice and inservice teachers of French, German, and Spanish to develop language proficiency and knowledge about current topics in the target culture, and to enrich pedagogical knowledge. Glisan and Phillips (1988) describe a program that prepares teachers to teach content in foreign languages in immersion or partial immersion schools. (See also Glisan, 1996, p. 70, for other descriptions of inservice professional development opportunities).

Opportunities for Professional Development

The federal government offers a range of programs for teachers' continuing education, including summer courses at universities,

funded by the National Endowment for the Humanities, and projects in curriculum and materials development sponsored by the Fund for the Improvement of Post-Secondary Education (FIPSE). The National Foreign Language Resource Centers, funded under Title VI of the Higher Education Act and managed by the U.S. Department of Education's Center for International Education, provide for continuing education of teachers on university campuses across the country. These centers create opportunities for K-12 and university teachers to collaborate and learn from each other throughout the school year and in summer programs. (See Zimmer-Loew, 1996, for a discussion of recent federal initiatives in foreign language education of students and teachers.)

Recommendations for Teacher Education

Even with all of these efforts, there remains a great deal to be done to ensure high-quality teaching of foreign languages in this country. Lange (1991), Phillips and Lafayette (1996), and Tedick and Walker (1996) make a number of recommendations for teacher preparation programs and describe initiatives that are currently underway. (See also JNCL, 1997, for recommendations based on a national survey.)

- Teacher education must shift from a focus on preservice training alone to lifelong professional development.
- Rather than separating language teacher preparation into different departments—English as a second language (ESL), foreign language, bilingual, and immersion—teachers should be prepared to teach in more than one second language context: for example, in both ESL and foreign language classes, or at both the elementary and secondary levels.
- Rather than beginning with academic coursework and educational theory and moving later to classroom practice, theory and practice must be integrated from the start. At the University of Minnesota, for example, preservice teachers are involved in schools from the beginning of their academic study, and they do their student teaching while they continue studying at the university.
- Teacher preparation programs need to expand their criteria for graduation beyond language proficiency and academic achievement alone, to include experience with different cultures in the United States and abroad, ability to work with diverse learners from many educational backgrounds and in many different educational settings, and ability to use state-of-the-art technologies in their instruction.
- In response to widespread teacher shortages due to high enrollments, teacher retirement, and teacher attrition, many states are granting emergency certification to individuals who meet certain criteria (a college degree, proficiency in the language, teaching experience, and pedagogy coursework). As a short-term solution, states need to make available professional development activities such as university courses and summer workshops to facilitate the recertification or relicensure of inservice teachers who have a foreign language background. In the long term, higher education programs need to encourage teachers to obtain dual certification: as elementary, middle, or high school teachers and as language teachers who meet certain proficiency requirements (Curtain & Pesola, 1994). Also, persons of color must be actively recruited by schools and university departments as teachers of foreign languages, a long-overdue change that has many other benefits in addition to addressing teacher shortages (see Lange, 1991, for discussion).
- Teachers in ESL, bilingual, and foreign language classrooms need to form strong partnerships that allow for the sharing of information, curricula, strategies, and support across disciplines, departments, schools, and levels. Partnerships also need to be formed across institutions. Schools, professional organizations, universities and community colleges, and local and state leaders all need to collaborate to enhance the quality of second language education in the United States.

Conclusion

Educational reform, a rapidly changing student clientele, technological development, and new views on assessment are just a few of the pressures today's foreign language teachers are encountering. If the foreign language profession is to provide first class instruction to its students while keeping up with a growing list of demands, support for high quality teacher preparation and continuing professional development must be given high priority.

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Schools, Principals, and Teachers Serving American Indian and Alaska Native Students

by D. Michael Pavel

The essence of Native involvement in school reform movements is accepting the responsibility to fulfill our sacred trust of educating the young. This is a trust long established among American Indians and Alaska Native people through ancestral traditions and more recently through treaty provisions agreed upon by sovereign Native nations and the United States of America. As we enter a new millennium, it becomes important to create a baseline to monitor progress in specific areas of educating Native people. To do so, this Digest draws upon the literature and a recent National Center for Education Statistics (1997) study using Schools and Staffing Survey (SASS) data. SASS is an integrated survey of U.S. schools, school districts, principals, teachers, and student records that includes an oversample of schools funded or operated by the Bureau of Indian Affairs (BIA) and public schools with high percentages of Indian student enrollment. The Indian supplement to the ongoing SASS data collection program represents an opportunity to describe (a) schools and school districts that serve a significant percentage of American Indian and Alaska Native youth, (b) the background of principals and teachers, and (c) the characteristics of American Indian and Alaska Native students.

The SASS data reflect the characteristics of American Indian and Alaska Native education from 1990-1991 and 1993-1994, and we hope conditions will have improved by the year 2000 when the next SASS data collection is scheduled. In particular we might reexamine: (a) the characteristics of schools with 25% or more Indian student enrollment, (b) rates of high school graduation and college application among their American Indian and Alaska Native students, and (c) the background characteristics of these schools' Native principals and teachers who are enrolled tribal members. Examining characteristics of schools helps us understand the context of education in schools with high percentages of Native students. Studying high school outcomes provides a way to monitor Native student participation at the critical undergraduate level. Last, in light of a growing demand to have Native people in organizational and classroom leadership positions, studies of Native educators and other variables such as the economic conditions of tribal communities, type and quality of services provided, and teacher demand and supply give us data needed to monitor developments in Indian education.

Schools

Indian school type and Native student enrollment. The findings are divided into three Indian school types for comparison: (a) schools controlled or funded by the Bureau of Indian Affairs (BIA/tribal schools), (b) public schools with 25% or more Indian student enrollment (high Indian enrollment [HIE] public schools), and (c) public schools with less than 25% Indian student enrollment (low Indian enrollment [LIE] public schools). In 1993-94, nearly half of all American Indian and Alaska Native students (approximately 229,276 students) were enrolled in approximately 170 BIA/tribal schools[1] (41,911 students) and 1,244 HIE public schools (187,365 students). On average, Native students represent a significant majority (between 57% and 98%) of the total student body in these two school types. The remaining Native students (262,660 students) in the public school system are scattered across nearly 79,500 public schools with an average of 0.6% American Indian and Alaska Native enrollment. It is interesting to note that BIA/tribal schools and HIE schools represent approximately 1.7% of the total number of publicly funded schools but enroll 47% of the total Native student population.

The relatively small number of schools enrolling a relatively large number of Native students has provided fertile ground to improve Indian education. Exemplary programs have advanced Indian education throughout the nation and, although improvements are still warranted overall, a growing number of schools have dramatically improved academic achievement among Native students (see for example, Chavers, 1996; in progress). Another promising sign for tribal elders is that ties to traditional cultures are evident in these schools, where approximately one-third of Native students in BIA/tribal schools and 16% of the Native students in HIE public schools speak a language other than English in their homes. Education programs incorporating Native culture and values are important attributes of today's Indian education programs and will continue to be the preferred direction of Indian education (Skinner, 1999; Yazzie, 1999). Moreover, "research, once the domain of university researchers, has been demystified to include research partnerships with local people asking their own questions and constructing appropriate paradigms for funding solutions" (Deyhle & Swisher, 1997).

Coursework toward graduation. The public is often unaware of remarkable strides made by Native communities to ensure that students receive a proper education. As shown in Table 1, when compared to public schools with low Indian student enrollment, high school students in BIA/tribal schools were required to pass more coursework in English and language arts, mathematics, social studies, and the sciences. Graduation requirements in BIA/tribal schools were also more strict than the requirements in HIE public schools in all core areas except English and language arts. National initiatives to raise graduation requirements in BIA/

Table 1
Average Years of Instruction Required for High School Graduation, by Subject Area and Indian School Type: 1993-94.

School Type	Average Years of Instruction				% Schools Requiring	
	English & Lang. Arts	Math	Social Studies	Phys/Bio Science	Computer Science	Foreign Lang.
BIA/tribal	3.9	3.0	3.2	2.4	51.3	33.5
HIE public	4.0	2.5	2.8	2.2	37.9	17.6
LIE public	3.8	2.5	3.0	2.2	36.2	17.4

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tribal schools were launched in 1994. It is possible these schools will continue to be more likely to require course work in computer science and foreign languages than will public schools with high and low Indian student enrollment (St. Germaine, 1995a).

Graduation rates and college application rates. There are approximately 45 BIA/tribal and 450 HIE public high schools. The 1989-90 high school graduation rate at BIA/tribal was 82%, compared to 91% in HIE and 93% in LIE public schools. College application rates at BIA/tribal schools were 33% during the same period, compared to 43% at HIE public schools. High school graduation and college application rates in BIA/tribal schools increased substantially by the 1992-93 school year but remained about the same in HIE public schools, while college application rates at BIA/tribal schools were 47% and 45% at HIE public schools.

The improvements in graduation and college application rates suggest that tribal self-governance and national school improvement movements during the late 1980s and early 1990s are having a positive impact on Indian education (Indian Nations at Risk, 1992; Pavel, Swisher, & Ward, 1996; Pavel, 1999; St. Germaine, 1995b). A growing number of innovative strategies are being used to increase high school graduation and postsecondary participation rates. For example, the Wellpinit School District-Spokane Indian Reservation's Focus on Excellence Program uses a "whole school success" approach combined with computer-aided instruction. Improvement efforts focus on meeting the needs of students and teachers to ensure that *all* students graduate and are encouraged to further their education.

Principals and Teachers

The quality of students' educational experiences is determined, in large part, by the learning environment principals and teachers create. The need for Native educators who can serve as positive role models and catalysts for improvement in administration and teaching is ongoing. Seventy-seven (or 47%) of the 164 BIA/tribal school principals identified themselves as American Indian or Alaska Native; of these, virtually all were enrolled members of a state or federally recognized tribe. Of the 1,158 principals in HIE public schools, 153 (just 13%) were either American Indian or Alaska Native, 84% of whom reported they were tribally enrolled. Only 38% of the teachers in BIA/tribal schools were American Indian or Alaska Native; however, 95% of these Native teachers reported they were tribally enrolled. Only 15% of the teachers in HIE public schools were American Indian or Alaska Native, 84% of whom were tribally enrolled.

Though important to all schools, it is vital that schools serving a high percentage of Indian students increase the number of American Indian and Alaska Native administrators and teachers who are tribally enrolled (Fuller, 1992; Hawley, 1989; Quezada, et al. 1996). The presence of Native people in school leadership positions brings much-needed positive role modeling and training in how to design programs for Native students (McGee & Cody, 1995; Solomon, 1997; Sorensen, 1992).

Moreover, tribal enrollment is an essential element of sovereign Indian society because it allows each Nation to determine who is a citizen. It is especially relevant in BIA/tribal schools since these institutions were established to serve Indian students. Tribal enrollment is equally relevant to HIE public schools because most of these institutions are located on or near Indian reservations.

Conclusion

A considerable number of American Indian and Alaska Native students can be found concentrated in a relatively small number of publicly funded schools. BIA/tribal schools and public schools with high Indian student enrollment, in particular, made important strides during the early part of this decade (1990-94) to raise standards for high school graduation while improving graduation and college application rates. However, there was and still remains a shortage of Native people who can serve as positive role models in administrative and teaching positions. When we again look at the characteristics of American Indian and Alaska Native education in the year 2000, we hope to see continued improvement in academic outcomes. We also look forward to a greater number of Native administrators and teachers who can provide leadership and instruction that will prepare Native children to live productive lives well into the 21st century.

Endnotes

[1] These schools were identified from a list of 176 institutions contained in the 1992-93 Education Directory of the BIA Office of Indian Education Programs. After NCES removed schools that were out-of-scope (e.g., peripheral dormitories that did not offer instruction, kindergarten-only schools), 170 BIA/tribal schools were eligible for sampling in the SASS.

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D. Michael Pavel (Skokomish) is an associate professor in the Department of Educational Leadership and Counseling Psychology at Washington State University.

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Teacher Morale

By Linda Lumsden

Teachers are being stretched to the limit. Expectations placed on them seem to be expanding exponentially. Increasingly their role encompasses not only teaching specific content and mentoring students in the love of learning, but functioning as frontline social workers.

In addition to being expected to deal with a smorgasbord of broader social problems that find their way into the classroom, many other pressures plague teachers, prompting Parks (1983) to ask, "How does one compensate professionals for inadequate books and supplies, large classes, disruptive students, public criticism, limited assistance, increased duties, and the lowest salaries paid to highly educated personnel in the nation? How does one lead a group in which morale is so low that over 40 percent of survey respondents would not again select teaching as a profession and 57 percent are definitely planning to leave, will leave if something better comes along, or are undecided about staying?"

Although Parks posed these questions in 1983, it appears that similar levels of dissatisfaction persist among teachers today. For example, a survey of Texas public school teachers in 1996 found that 44 percent of respondents were seriously considering leaving the profession (Henderson and Henderson 1996).

This Digest examines factors that may influence teacher morale and offers suggestions for preserving or restoring morale.

What Is Teacher Morale?

Morale has been thought of variously as a feeling, a state of mind, a mental attitude, and an emotional attitude (Mendel 1987).

One source defines *morale* as the feeling a worker has about his job based on how the worker perceives himself in the organization and the extent to which the organization is viewed as meeting the worker's own needs and expectations (Washington and Watson 1976).

Another author conceptualizes *morale* as "the professional interest and enthusiasm that a person displays towards the achievement of individual and group goals in a given job situation" (Bentley and Rempel 1980).

When a healthy school environment exists and teacher morale is high, "teachers feel good about each other and, at the same time, feel a sense of accomplishment from their jobs" (Hoy and Miskel 1987).

What Are Some Factors that Affect Teacher Morale?

As noted above, a healthy school environment and high teacher morale tend to be related. A principal's ability to create a positive school climate and culture can affect teacher morale. As Adams (1992) states, "Principals, who control many of the contingencies in the work environment and are the source of much reinforcement for teaching behavior, are the keys to improving the morale and self-esteem of teachers."

A recent report on job satisfaction among American teachers identified "more administrative support and leadership, good student behavior, a positive school atmosphere, and teacher autonomy" as working conditions associated with higher teacher satisfaction (National Center for Education Statistics 1997). Favorable workplace conditions were positively related to teacher' job satisfaction regardless of whether a teacher was employed by a public or private school, an elementary or secondary school, and regardless of teachers' background characteristics or school demographics (National Center for Education Statistics).

The study also found that "teachers in any school setting who receive a great deal of parental support are more satisfied than teachers who do not." A weak relationship was found between teacher satisfaction and salary and benefits (National Center for Education Statistics).

Teachers' perceptions of students and student learning can also affect their morale. In a cross-cultural study of teacher enthusiasm and discouragement that included teachers from the U.S. and six other nations, "Teachers clearly identified students as the primary and central factor that has an impact on both their professional enthusiasm and discouragement.... Teachers almost universally treasure student responsiveness and enthusiasm as a vital factor in their own enthusiasm, and conversely list low motivation in students as a discourager" (Stenlund 1995).

Because of their relative isolation from other adults, teachers have little opportunity to share their successes with colleagues and administrators. This results in greater reliance on student responsiveness for teachers' professional satisfaction (Goodwin 1987).

Stress also affects morale. It can "result in emotional and physical fatigue and a reduction in work motivation, involvement, and satisfaction" (Stenlund). Feeling overly stressed can result in erosion of one's idealism, sense of purpose, and enthusiasm.

Why Is Teacher Morale Important?

Miller (1981) notes that teacher morale "can have a positive effect on

pupil attitudes and learning. Raising teacher morale level is not only making teaching more pleasant for teachers, but also learning more pleasant for the students. This creates an environment that is more conducive to learning."

Morale and achievement are also related. Ellenberg (1972) found that "where morale was high, schools showed an increase in student achievement."

Conversely, low levels of satisfaction and morale can lead to decreased teacher productivity and burnout, which is associated with "a loss of concern for and detachment from the people with whom one works, decreased quality of teaching, depression, greater use of sick leave, efforts to leave the profession, and a cynical and dehumanized perception of students" (Mendel citing Holt 1980).

In short, the morale of teachers can have far-reaching implications for "student learning, the health of the organization, and the health of the teacher" (Mendel).

What Steps Can Teachers Take To Preserve or Raise Their Morale?

Sometimes teacher morale drops almost imperceptibly over time, so subtly that teachers may not be fully cognizant of the decline. Nothing can change, however, in the absence of awareness. If teachers to be encouraged, they must first recognize their diminished status —that they are "*dis*couraged—and take action to become 'couraged' again" (Bolin 1987).

Reassessment, when coupled with renewal, can often lead to encouragement. *Reassessment* involves reexamining something in order to value it again (Bolin). And *renewal* "implies recovery. To become renewed, teachers must reopen the case for teaching, looking again at why they chose to set out on such a vocational venture" (Bolin).

Berman (1987) also emphasizes the need for individuals "to give attention to the care and replenishing of self if they are to be dynamic, sensitive, perceptive persons—persons who get excited about ideas and people. Teachers need to be able to keep the freshness and spark that frequently mark a novice in the field, while at the same time embedding freshness in wisdom and thoughtfulness."

Berman advises teachers to consider what is uplifting and energizing for them and then work toward integrating those things more fully into their lives. She suggests breaking out of routines and doing the unusual, planning for next steps in professional development, developing a network of individuals to dialogue with, and investing fully in tasks at hand as routes to replenishment.

How Can Administrators Influence Teacher Morale?

People who feel empowered tend to have higher morale. As Maehr, Midgley, and Urdan (1993) state, "People are more personally invested in their work with an organization when (1) they have a voice in what happens to them; and (2) their work has meaning and significance in contributing to a higher purpose or goal."

When teachers' sense of self-determination and purpose are supported, teachers relate to students in a qualitatively different manner (Maehr, Midgley, and Urdan).

By treating teachers in ways that empower them, such as involving them in decisions about policies and practices and acknowledging their expertise, administrators can help sustain teacher morale.

Principals can also strengthen teacher morale by actively standing behind teachers. Effective principals serve as guardians of teachers' instructional time, "assist teachers with student discipline matters, allow teachers to develop discipline codes, and support teachers' authority in enforcing policy" (Blase and Kirby 1992).

Although teachers can take steps individually to preserve their professional satisfaction and morale, they must also be nurtured, supported, and valued by the broader school community. When teachers are provided with what they need to remain inspired and enthusiastic in the classroom, students as well as teachers will be the beneficiaries.

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BLOOMINGTON, INDIANA 47408
812-855-3838 • 800-266-3815

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Teaching World History: The Global Human Experience Through Time

by Simone Arias, Marilynn Hitchens, and Heidi Roupp

What Is World History? World history is the study of human history around the globe through time. World history stretches beyond the boundaries of nation-states or civilizations to form a macro history of the human story. Just as the history of the United States is more than the history of 50 individual states, world history is the study of the global human experience and changes in that experience through time.

World historians study global forces and large historical themes such as climatic change, the spread of religions, and the expansion of the market economy. For example, Columbus in world history is not simply the story of Columbus discovering a "new world." Instead it is the "Columbian exchange," a story of human migrations, transatlantic trade, and the exchange of plants, animals, diseases, art, and technology between the eastern and western hemispheres. World history enables us to improve our understanding of how humans have interacted with each other and the planet in the past to shape the present.

World history became an established field of study with the founding by historians and educators of the World History Association in 1982. This field is in its infancy. Scholarship in world history, as in biological research, is expanding rapidly because of international, collaborative research via the Internet; the increasing number of resources available to world historians; and cross-disciplinary studies with anthropologists, archaeologists, geographers, and others in the social sciences. Globalization of the market economy and the development of the international "pop" culture with its bewildering amalgam of many cultural traditions have increased the demand for world history. Yet much remains to be learned. And that is the excitement of world history. When world history class becomes a laboratory where teachers and students form a partnership to investigate what is known to question the unknown, the study of the human story escalates from passive memorization to inquiry and discovery.

Why World History in the School Curriculum? Each age writes its own history. The nineteenth and twentieth centuries were periods of Western influence in politics, economics, and culture. The twenty-first century, however, will belong to world politics, economics, and culture. Consequently, a new history of the world and its people is being written.

Why should this new story be told? Why should it be at the core of the school curriculum? There are many reasons, which pertain to:

- citizenship — creating a body of informed citizens capable of making global decisions for the world body politic at large;
- business — understanding the economic, cultural, and political environment of many countries in order to participate more fully and effectively in the global market place;
- humanity — thinking more deeply and broadly about the whole human experience rather than its provincial parts as a means of deeper and broader human interconnection;
- patterns of thought — developing world history thinking skills; and
- basic knowledge — understanding who we are, how we got that way, and where we are going.

In our interconnected world, the need to share a common history as well as a particular one is a global phenomenon that involves us all. A history of the world experience, as well as the national and local experience, can provide a forum through which, aided by the study of world history, we develop common ideas that transcend cultural and political boundaries.

Major Themes and Habits of Mind for Teaching and Learning World History. Certain universal historical themes shape the common human experience. Bound by neither time nor space, they appear broadly across the globe and centuries. These themes form the basis of world history. They include:

- manipulating and changing the physical environment;
- developing tools and technology;
- peopling the globe;
- diffusing and exchanging ideas, tools, and other facets of culture;
- ending old frontiers and developing new ones; and
- creating increasingly more complex systems of politics, economics, and social interactions.

The study of world history develops certain habits of mind needed by individuals to function in a twenty-first century world of interaction, diversity, and rapid change. These habits of mind include:

- seeing the big picture;
- discerning the common phenomena;
- identifying the spread, exchange, and acceptance or rejection of new ideas;
- making sound historical comparisons; and
- collaborative testing of an historical hypothesis from multiple points of view.

Simone Arias is an instructor of Social Studies Education and a doctoral candidate in Global Studies at The Ohio State University. Marilynn Hitchens teaches an on-line world history course at the University of Colorado, Denver. Heidi Roupp is the current president of the World History Association.

Teacher Preparation and Instructional Strategies. Teacher preparation in world history must involve strategies to expand both teacher expertise as well as the knowledge base of students. Given the lack of world history preparation of most students (secondary and post-secondary) and the narrow focus of world history in most teacher preparation programs, exploring a comprehensive world history requires research and reflection by instructors and students alike.

Redefining the relationship of teachers and students as a partnership facilitates this educational process. Most social studies teachers started their teaching careers with course work in Western civilization or area studies. Teaching a global world history, however, requires reconceptualization of the subject. Together the class can examine both common themes and the uniqueness of societies within a chronological framework constructed for the course.

A study of world history must encompass both breadth and depth. Most courses focus either narrowly and deeply or broadly and shallowly. A cross section of the two is possible through class lectures and discussions around broad social, political, economic, or cultural themes integrated with focus groups in which students can examine various regions of the world in depth to learn how themes have unfolded during specified eras. This preserves a sense of chronology of events and movements over time, yet also allows for comparisons of societies in different eras or in different regions as the course proceeds. Inquiry is grounded in historical knowledge placed in a broader context.

This structure serves several purposes. First, it makes the overwhelming subject of world history more manageable for students and teachers, particularly with the limitations of time restraints in any course. Second, it reduces the chance of a "one fact after another" approach where students are challenged merely to recall isolated facts covered in the textbook and the teacher lectures without a clear sense of what those facts mean. Third, it promotes critical thinking, a necessity in a democratic system. Discerning fact from opinion and identifying multiple perspectives in cross-cultural encounters are desirable outcomes of instruction in our increasingly interconnected world. Fourth, themes provide a framework for reading for meaning and for the relevance of historical topics. Learning information simply because it is in the textbook does not motivate today's students to become competent, or even interested, in world history. Fifth, the approach can incorporate the wealth of resources available through technology. Using these resources can greatly enhance textbook information, but students must be taught simultaneously how to discriminate between reliable and unreliable resources.

Acquainting students with human history is a daunting task. The overwhelming assignment can be made more manageable, however, if one provides for in-depth regional studies set in the context of a wider realm of human experience. This de-centered approach promotes comparative studies, multiple perspectives including voices of women and minorities, and a more comprehensive understanding of human and environmental events. Analyzing the effects of the past on contemporary life and recognizing the problems of present-minded thinking and the limits of our own perspectives will promote competency in historical thinking.

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Technology in Teacher Education: Progress Along the Continuum

Judy A. Beck and Harriet C. Wynn

Introduction

Schools, colleges, and departments of education (SCDEs) may be placed along a continuum in their integration of technology. The 1995 Office of Technology Assessment (OTA) report, *Teachers & Technology: Making the Connection*, spoke to one end of the continuum when it raised two important points—that "technology is not central to the teacher preparation experience" and that "most technology instruction . . . is teaching *about* technology . . . not teaching *with* technology across the curriculum" (p. 165). However, the other end of the continuum has been captured by Pellegrino and Altman in the design dimensions outlined below. These dimensions illustrate "changing courses and changing thinking" and provide a conceptual framework to describe the work of Peabody College at Vanderbilt University (TN) in incorporating technology in teacher education:

> The first design dimension . . . involves moving students from consumers and participant observers of technology-based learning applications to producers of content applications appropriate for their own teaching. . . . The second design dimension . . . involves the shift of technology applications from supplementary to central in a given course's learning activities. . . . The third design dimension. . . . represents a gradual and progressive increase in the sophistication and complexity of the technology-based applications that students experience in a course. In part, this dimension captures the fact that over the length of their teacher preparation program students mature in their own understanding and sophistication with respect to content knowledge, pedagogical content knowledge, and knowledge of technology. (1997, pp. 96-99)

This Digest will review preservice student and teacher education faculty use of technology and SCDE institutional capacity. Several examples of SCDE programs that have integrated technology into teacher education will be presented and factors supporting change will be highlighted.

A Snapshot of SCDE Integration of Technology

During the fall of 1996, a survey on technology was distributed to member institutions responsible for teacher education programs as part of the American Association of Colleges for Teacher Education (AACTE) and National Council for Accreditation of Teacher Education (NCATE) Joint Data Collection System. The study shows a number of positive aspects of the use and potential use of both basic and interactive information technologies within teacher education (Persichitte, Tharp, & Caffarella, 1997). While there is room for improvement in technology utilization, the idea that schools of education are technologically bankrupt is not supported. To the contrary, in student use, faculty use, and institutional capacity, SCDEs are moving forward and in some cases, leading the way.

Preservice Student Use of Technology

At 40% of the responding SCDEs (n=466; 63% return rate), students are required during the on-campus part of their program to design and deliver instruction incorporating various technologies. Students at another 50% of the SCDEs are required to demonstrate the use of at least one technology during their on-campus classes. At 28% of the SCDEs, students are required to design and deliver instruction that incorporates various technologies during the student teaching experience. Almost all institutions provide students accessibility to basic word processing, spreadsheet, and presentation programs. Students at 57% of the SCDEs have access to advanced electronic technologies.

As the survey results indicate, trends for using technology in on-campus classes are positive. However, use of technology does drop off during student teaching. Schools of education have been encouraged to continue to identify and implement technology-rich instructional strategies within required preparation course work.

Faculty Use of Technology

Faculty members at 45% of the SCDEs responding regularly use computers, information during class periods. In addition, 81% of SCDEs require students to use computer applications to complete assignments. Faculty use of e-mail is primarily to communicate within the SCDE (93% of institutions). However, at 67% of responding SCDEs, faculty use e-mail to communicate with colleagues at other institutions and to collaborate on projects.

These findings are encouraging as current literature continues to stress the importance of the use and modeling of multiple technologies by higher education faculty responsible for the preparation of future teachers. Faculty use technology to present information during class, to conduct research, and to communicate with peers.

Institutional Capacity

At the time of the survey, 42% of the SCDEs responding had classrooms wired for the Internet. Fully 98% of the institutions reported that they have classrooms with televisions and videocassette recorders available for instructional purposes. In terms of planning, 55% of SCDE had budgeted a plan to purchase, replace, and upgrade a variety of educational technologies, while 38% had a plan but did not have a supporting budget.

The majority of preservice students have access to some advanced electronic technologies and software applications. SCDEs generally have well-equipped classrooms and their information infrastructure is generally part of a budget plan for purchase, replacement, and upgrades.

Programs Model Technology Integration

Three schools of education that have been identified as having implemented long-term efforts to integrate technology throughout their programs are Curry School of Education at the University of Virginia; College of Education and Human Services, Western Illinois University; and College of Education, Michigan State University (AACTE, 1998).

Curry School of Education, University of Virginia

In the mid-1980s the Curry School designated education technology as one

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strand for integration throughout the program with the goal of ensuring that preservice teachers will be prepared to integrate appropriate uses of educational technologies in their own teaching after graduation, and serve as leaders for other teachers. The school developed partnerships with local school divisions and state policy makers as essential elements in the work. Specific programs include TeacherLink, a regional telecommunications network; Public Education Network (PEN), one of the nation's first statewide K-12 Internet systems; CaseNET, a series of case-based courses on the World Wide Web; the Technology Infusion Project (TIP), pairing preservice teachers with local classroom teachers; and others. The Curry Educational Technology Center provides support and resources within the school (Curry School of Education, 1997).

College of Education and Human Services, Western Illinois University

The College of Education and Human Services, Western Illinois University, aided by remarkable success in achieving external and state funding, developed interactive multimedia laboratories, developed numerous electronic classrooms, established an instructional video lab and a faculty development lab, made use of compressed video to link to school districts, established a distance learning program with a middle school located 90 miles from campus, developed technology competencies for its teacher education program, redesigned the curriculum in 12 different courses, and employed instructional designers to assist faculty in course development (Smith, Barker, Baker, & Dickson, 1996).

College of Education, Michigan State University

The College of Education at Michigan State University designed its technology integration program to achieve four objectives: (1) to prepare a new generation of K-12 teachers who are able to use technology creatively and critically to enhance student leaning, (2) to prepare a new generation of teacher educators who are able to use and model the use of technology to enhance student learning, (3) to prepare a new generation of educational researchers who are able to investigate educational uses of technology, and (4) to support K-12 schools in their efforts to enrich student learning through the use of technology. Michigan State mobilized top graduate students to support teacher educators and teacher candidates in integrating technology in their teaching and learning and established unique laboratories to support research on teaching with technology. A technology exploration center, authentic assessment of technology competencies for teacher education students, and implementation of an educational technology certificate program are a few of the other program components (Michigan State University, 1997).

Support for Change

The OTA report cited "time, limited resources, faculty comfort level and attitudes, and little institutional encouragement for technology use" as barriers to a more integrated use of technology in SCDEs (1995, p. 187). A group of deans from teacher education institutions in the northeast cited a similar list in late 1997—with lack of funding leading the way. Of the 93% of responding institutions to the 1996 AACTE/NCATE survey that have plans for purchasing, replacing, and upgrading technology, only 55% have budgets for such actions. Up to this point, federal and state monies that have been made available for educational technology advancements and professional development have not been accessible to higher education. The E-Rate discounts do not apply to schools of education or their libraries. SCDEs are learning to make the case within their own institutions for technology-related funding and are forming partnerships and consortia to strengthen resources.

NCATE is in the process of revising its standards for implementation in the year 2000. Current unit standards reflect recommendations from the International Society for Technology in Education (ISTE). New standards for the infusion of technology in teacher education programs and a vision for what skills and understandings graduating students should bring into the classroom will be a significant facet of the revisions (NCATE, 1997). As states require more capability with technology through licensing and certification standards, schools of education will align programs to produce new teachers able to meet those requirements.

Positive Movement on the Continuum

The National Commission on Teaching & America's Future, in its report *What Matters Most: Teaching for America's Future* (1996), posed this challenge: "Schools of education . . . need to model how to teach for understanding in a multicultural context, how to continually assess and respond to student learning, and how to use new technologies in doing so" (p. 77). America's schools, colleges, and departments of education are doing much more to meet that challenge than is commonly believed. The teachers of tomorrow are being prepared today in environments that increasingly are infused with technology, moving toward the reality of the 21st century.

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Mary E. Dilworth, Director
Judy A. Beck, Associate Director
Judy A. Beck and Harriet C. Wynn (Authors)

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ERIC Q & A

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National Clearinghouse for ESL Literacy Education

Trends in Staff Development for Adult ESL Instructors

by Miriam Burt and Fran Keenan
National Clearinghouse for ESL Literacy Education

English as a second language (ESL) instruction has become an important part of the adult education field in the final decades of the 20th century. U.S. Department of Education statistics (1997) indicate that nearly as many ESL learners enrolled (1,439,237) in adult education as did adult basic education (ABE) learners (1,509,065). What is more, 70% of the adult education programs across the country offer some ESL instruction (Fitzgerald, 1995). Because of these high numbers of adults learning English, the need for qualified teachers is strong and projected to continue.

What training do adult ESL instructors need? How are some states addressing this training need? What are the challenges they face? This Q&A will answer those questions as it looks at trends in staff development for adult ESL instructors.

What do instructors need to know?

Instructors need to know how to work with a learner population that is diverse in race, culture, native language, economic status, motivation for learning the language, and educational background. The population includes highly educated professionals from Europe or Latin America, farmers and nomadic tribes members from the Middle East or Southeast Asia who have never been to school and who are illiterate in their own language, and many who fall in between the extremes (Shank & Terrill, 1995). At the same time, ESL teachers need to know the following things:

1. *How adults learn best and how instruction can best facilitate this learning.* Some principles of adult learning include:

- New knowledge has to be integrated with previous knowledge; that requires active learner participation.
- Collaborative modes of teaching and learning enhance the self-concepts of those involved and result in more meaningful and effective learning.
- Adult learning is facilitated when teaching activities promote question asking and answering, problem finding, and problem solving.
- Adult skill learning is facilitated when individual learners can assess their own skills and strategies to discover inadequacies or limitations for themselves. (Dewar, 1996).

2. *How adults learn a second language.* The factors that contribute to the learning of a second language are complex. They include, but are not limited to, degree of literacy in the first language, type and amount of previous formal education, whether the first language uses the Roman alphabet system or not, the age and cultural background of the learner, and the learner's motivation for learning the language (Holt, 1995; Shank & Terrill, 1995).

3. *How to teach others from a variety of cultures.* Research about how to teach English language and literacy to adults shows the need for a variety of instructional approaches to meet the needs of very diverse learners (Peyton & Crandall, 1995; Wrigley & Ewen, 1995).

Few practitioners have been trained in all three areas: adult learning theory, the "complexities of second language acquisition," and in how to teach individuals from another culture (U.S. Congress, 1993, p. 171).

What is effective staff development?

A study done for the U.S. Department of Education (Kutner, 1992) found that the most successful training for teachers and volunteers working with adult learners was "ongoing, extensive," had a "solid theoretical basis," and was that which the teachers themselves helped "plan, implement, and evaluate" (p. 2). Another study showed that the highest success rate for staff development occurred when participants tried out the new skill on the job with their students and received feedback and peer coaching from a support group (Joyce & Weil, 1996).

Literature on staff development for adult educators has pointed to the need for adequate time for inquiry, reflection, and teacher collaboration (Foucar-Szocki, et al., 1997; Kutner, 1992). An evaluation study of the Virginia adult education professional system found that "practitioners consistently say that they want to learn with others" (Foucar-Szocki, et al., 1997, p. 78). Teachers want to be part of a learning community.

These concerns are addressed in an inquiry-based model of staff development, which uses teacher research or "systematic, intentional inquiry by teachers about their own school and classroom work" as a central activity (Lytle & Cochran-Smith, 1992, p. 471). With this model, teachers have the opportunity to share with other teachers what they have learned from their research (Drennon, 1994). They also have opportunities to "experience, reflect, and apply what they learn" (Bingman & Bell, 1995, pp. 31-32).

What are some national efforts and policies?

In the 1991 National Literacy Act amendments to the Adult Education Act, Section 353 mandates that states set aside 15% of their Basic State Grant funds for teacher training and demonstration projects and that two-thirds of this amount must be used for teacher training. In Fiscal Year 1994, for example, states distributed $11 million dollars to adult education programs, community colleges, and other organizations for 353 projects. A little more than seven million dollars of it went to teacher training (RMC Research Corporation, 1995).

The advent of adult education system reform efforts such as program quality indicators (required by the National Literacy Act), the Office of Vocational and Adult Education's (OVAE) Results-Based Reporting System (development of a national reporting system of outcome measures that document student performance), and the National Institute for Literacy's (NIFL) Equipped for the Future (grassroots standards-based system reform which looks at what adult learners need to know in their roles as family members,

workers, and community members) have focused considerable attention on the need for improved staff development. These efforts demand increasingly sophisticated adult education program accountability and this, in turn, depends on well-trained teachers.

State literacy resource centers (SLRC) have also been a vehicle for professional development. They are a network of information and technical assistance centers that were established by the National Literacy Act to coordinate adult education and adult ESL resources and promote staff development. Unfortunately, federal funding for these centers was discontinued by Congress in 1995; those still in operation struggle to secure state and private funding and continue their activities.

What are some activities in key states?

In 1996, the states with the highest enrollments of adults studying English as a second language were, in descending order, California, Florida, Texas, New York, and Illinois (U.S. Department of Education, 1997). Some staff development activities in these and other states are described below.

California

California, the state with the greatest number of adult ESL learners, provides technical assistance, communication linkage, and information to adult educators through its Outreach and Technical Assistance Network (OTAN). OTAN is funded by Section 353 monies. It facilitates the educational use of software and technology in the adult education classroom. The Staff Development Institute of California, another 353 project, provides training to ABE and ESL teachers and administrators on such topics as cultural diversity in the literacy classroom, essential elements of ESL instruction in adult education, and planning an ESL multilevel lesson. More information is available on their website at http://www.otan.dni.us/webfarm/sdi/.

Illinois

In Illinois, the Adult Learning Resource Center (ALRC) in Des Plaines offers staff development to adult ESL programs throughout the state. Twice a year, the ALRC provides a variety of adult ESL staff development activities for teachers and administrators through regional workshops. Staff development workshops for ESL instructors include teaching non-literate ESL students, cultural awareness in the classroom, and Internet basics. The ALRC also provides on-site workshops, staff consultations by phone or in person, materials, software bibliographies, and library resources. The ESL page of the ALRC website (http://www.center.affect.org/ALRC/index.html) lists resources and discusses classroom activities such as using pictures with pre-literate learners. The site also has links to other ESL websites.

Texas

In Texas, the Adult Education Professional Development and Curriculum Consortium has been funded by 353 grants since 1993. Each organizational member focuses on one aspect of staff development (for example, one might provide training in assessment techniques, another in curriculum development). According to Patricia DeHesus-Lopez of consortium member Texas A&M University, the group tries to ensure that staff development is thorough, ongoing, effective, and accessible to practitioners statewide. It also tries to integrate distance learning and technology and professional development. Its web address is http://www.cdlr.tamu.edu/tcal/liaison.htm.

One consortium training initiative is Project IDEA (Institute for the Development of Educators). Its goal is to develop local capacity for reflective, inquiry-based teacher training. For educators and administrators involved in this training, Project IDEA is a year-long process that begins with a three-day institute after which participants chose a topic to research. Through the year, participants work on their individual projects, communicating with one another and with their facilitators in person and through listservs.

Other professional development is implemented through the state system for interactive video, made available through the Texas Educational Television Network (TETN). TETN broadcasts trainings to the regional service centers on such subjects as family literacy or legal and technical information for administrators. Consortium advisory council meetings have been held through interactive video via TETN.

Massachusetts

Although Massachusetts does not rank among the top 5 states in numbers of adult immigrant learners, urban areas such as Boston have many ESL learners. It is estimated that more than 12% of the adult population may need ESL services (Chisman, Wrigley, & Ewen, 1993). Further, in Massachusetts, unlike in most states, staff development *is* a paid and required activity for adult educators: Massachusetts mandates that full-time educators receive 50 hours per year of paid release time for staff development and this is prorated for part-time instructors.

The umbrella for staff development in Massachusetts is the 353-funded System for Adult Basic Education Support (SABES). SABES is a comprehensive professional-development and technical-assistance initiative. Through a central resource center at World Education and five regional support centers at community colleges, it offers workshops, consultation, mini-courses, new teacher orientations, practitioner research groups, teacher sharing groups, a statewide newsletter featuring practitioners' writing, and other professional development. Because one-time-only trainings are not as effective as those that are ongoing and based on the expressed needs of the educators, needs assessment of teachers is done regularly. One of these centers, the Adult Literacy Resource Institute (ALRI), a joint effort of Roxbury Community College and UMASS Boston, maintains an extensive website of ABE and ESL resources for practitioners and a large lending library of resource materials. This website can be reached via the SABES website at http://www.sabes.org.

Massachusetts has used distance education for staff development. In 1994, the state funded a series of interactive cable programs and videos for adult ESL staff development that were produced by the Massachusetts Corporation for Educational Television (MCET) working with SABES.

Also based in Massachusetts, Eastern LINCS (Literacy Information Communication System)—one of four regional technology hubs funded by NIFL—has the goal of supporting the adult literacy community's effort to access and use the Internet. One of Eastern LINCS's projects promotes ESL staff development by training teachers to publish resources on the Eastern LINCS website at http://hub1.worlded.org/.

Virginia

Like many other states, Virginia is now focusing its staff development for adult educators on building learning communities through practitioner networks. The state uses 353 monies to fund the following staff development activities. The Center for Professional Development plans and offers training at the local and state level. The Adult Education and Literacy Resource Centers has a lending library of over 10,000 titles including videos, software, and non-commercial materials, as well as a website of information about professional development and links to other adult education web pages. The Virginia Adult Institutes for Lifelong Learning (VAILL) are two-day statewide summer institutes for adult educators. One of these institutes has an

ESL focus. The Virginia Adult Educators' Research Network supports practitioner research by offering technical assistance and a stipend to practitioners to pursue their own research questions. A quarterly publication, the *Progress for Adult Learning in Virginia* provides information about state, regional, and local training activities (Foucar-Szocki, et al., 1997). The Resource Centers have recently completed a project that will be used in staff development for adult ESL educators. The *ESL Starter Kit* provides information on registration procedures, learner assessment, needs assessment, and working with multilevel classes and will be available online later this year http://www.vcu.edu/aelweb/.

What are some challenges to good staff development?

In 1993, a federal report entitled *Adult Literacy and New Technologies: Tools for a Lifetime* (U.S. Congress) outlined the following challenges to good staff development: "minimal state and local policies and certification requirements; limited in-service requirements; the part-time nature of adult education teachers and volunteer instructors; the high rate of staff turnover; the lack of a unified research base on best practices; and limited financial resources for training" (p. 171). All of this is especially true for those adult educators who teach English as a second language (Crandall, 1993; Florez, 1997).

Minimal Certification Requirements

State by state, requirements for teaching adult ESL vary, however, most states require far less training of those who teach adults than they do of those who teach children (U.S. Congress, 1993). Some states require an elementary or secondary school teaching certificate, and some, only a Bachelor's degree. Many do not require any coursework on adult learning theory. At the same time, a scarcity in degree programs that offer a concentration in adult ESL education (Florez, 1997) makes it impractical to require specific academic qualifications of adult ESL teachers.

Part-time Nature of Adult Instruction

For most adult ESL teachers, staff development or training tends to consist of *voluntary attendance* at one- or two-day workshops, conferences, or seminars rather than participation in long-term professional development or teacher-researcher activities (Crandall, 1993; Kutner, 1992). Adult educators are not unlike the adult learners in their classrooms. They frequently have busy lives and find it hard to pursue additional training or education. Unlike most K-12 educators, teaching is often not their only or even their main job. In fact, 90% work part time, are paid on an hourly basis, and do not receive benefits (U.S. Congress, 1993). Some are full-time K-12 educators by day and part-time adult educators by night. Others use several classes, taught throughout the day and evening at different locations, to create a full-time position. Some may have an unrelated primary job and teach adults in the evening for extra funds. Still others have the primary responsibility of a home and family during the day and evening, with minimal hours to devote to teaching, let alone their own professional development. It is likewise difficult for programs to make many demands of a part-time work force.

Turnover

Given that a majority of adult ESL instructors work without contract or benefits, a high rate of staff turnover is not surprising (Crandall, 1993). Adult ESL programs are continually hiring new teachers, who, of course, need training.

Limited Research Base

Until the middle of this century, little attention was given to the differences between adults and children as learners. Then, in the 1960s, educator Malcolm Knowles coined the word, and hence the field, of *andragogy*, a theory of adult learning which suggests that "adults expect learner-centered settings where they can set their own goals and organize their own learning around their present life needs" (Donaldson, Flannery, & Ross-Gordon, 1993, p. 148). However, within adult education overall, much remains to be researched about how adults learn best. There is still debate in the field about the need for different approaches for teaching adults and children, and some educators maintain that all good teaching, whether for children or adults, is responsive in nature (Imel, 1995).

Although much is known about language and effective practice, many unanswered questions remain. An ESL research agenda has recently been developed by the National Clearinghouse for ESL Literacy Education (NCLE) and the National Center for the Study of Adult Learning and Literacy with input from the field (NCLE, 1998). It sets forth clear priorities for research that will improve the effectiveness of adult ESL programs. One of the major categories addressed is teacher preparation and staff development.

Limited Resources

The major federal source of funding for staff development in adult education is the 353 monies. A study of adult education programs (RMC Research Corporation, 1995) found that Section 353 funds were virtually the sole source of support for staff training and program improvement in FY 91-94.

What practices are promising?

Professional development opportunities via distance education–in the form of online Internet courses and seminars–have been multiplying in the last several years for many disciplines including ESL education (Warschauer, 1995). Several institutions are offering online courses in ESL methodology including Brigham Young University (Utah), the New School for Social Research (New York City), the University of Southern Florida, and the University of California Los Angeles (UCLA) Extension program. All of these courses are part of graduate or certificate programs.

The Internet, with its listservs, newsgroups, and electronic mail, and the World Wide Web (with its audio and video capabilities) make possible the building of communities in electronic space. This capability may be a key component in developing effective online adult ESL staff development.

Conclusion

There is a clear need for staff development for adult ESL instructors. Limitations of time and resources for this training exist. The use of technology in distance education as well as the proliferation of reflective inquiry staff development initiatives are promising practices that may begin to overcome the challenges and meet the need.

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SABES: http://www.sabes.org

The Staff Development Institute: http://www.otan.dni.us/webfarm/sdi

The Virginia Adult Education and Literacy Resource Centers http://www.vcu.edu/aelweb/

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Using Alternative Assessments to Improve the Teaching and Learning of History

by Frederick D. Drake

A history teacher's curriculum planning, choice of classroom methodology, and means to assess student learning are inextricably linked. Forms of assessment that involve only recall of discrete information are likely to encourage teaching methods that emphasize low-level cognition. Further, traditional forms of assessing students' knowledge of history neither prompt students to reveal all they know about the subject nor challenge them to learn more. Thus, teachers and researchers have concluded that traditional assessments must be complemented by new methods that can reinvigorate and improve the teaching and learning of history in schools.

Alternative Assessments and Historical Literacy. Alternative assessment can be a diagnostic tool to improve both a teacher's instruction and a student's learning of history by revealing information about three dimensions of a student's historical literacy. First, students who complete alternative assessment activities demonstrate their *knowledge* of historical facts, themes, and ideas. Second, students who complete alternative assessment activities demonstrate their ability to *reason*; that is, to analyze, evaluate, and synthesize historical evidence. And third, students who complete alternative assessment activities demonstrate their ability to *communicate* their historical knowledge and reasoning to others.

Each dimension of a student's historical literacy has its own important characteristics that provide the structural frame teachers need to create an alternative assessment activity for their students. *Knowledge* of historical evidence is the prerequisite students need to demonstrate their ability in the other two dimensions. The Bradley Commission's "Vital Themes and Narratives" is a conceptual scheme that helps students organize their knowledge of the past. These themes serve as filters to help students differentiate between what is important and what is insignificant in the historical record. They provide direction for students to accurately identify, define, and describe important concepts, facts, and details. (The Bradley Commission on History in the Schools 1988, 10-11).

Historical facts and themes, approached through informed questions, are a point of departure for demonstrating a student's ability to reason. *Reasoning* makes the facts and themes meaningful and thereby brings about a deeper understanding of the subject. Reasoning certainly involves critical thinking and requires students to discover relationships among facts and generalizations, and values and opinions, as a means to provide a solution to a problem, to make a judgment, or to reach a logical conclusion.

Historical reasoning ought to be the principal aim of historical study and alternative assessment. The National History Standards (1996, 14-24) distinguish historical reasoning or thinking and historical understanding. The latter defines what students should know; the former makes it possible for students to differentiate between past, present, and future; raise questions; seek and evaluate evidence; compare and analyze historical illustrations, records, and stories; interpret the historical record; and construct historical narratives of their own. The Bradley Commission's "Habits of Mind" provides a useful conceptualization of historical reasoning, such as the ability of students to understand the significance of the past and the present to their own lives; to perceive events and issues as they were experienced by people at the time; and to recognize the importance of individuals who have made a difference (Bradley Commission on History in the Schools 1988, 9 and Gagnon 1989, 25-26).

Effective *communication* of historical knowledge and historical reasoning requires a student to organize, interpret, and express his or her thoughts. In recounting events of the past, a student must develop a clearly defined thesis and create an interesting narrative that tells what happened in an informed way. A well-organized presentation supplies relevant examples to support its main ideas and offers conclusions and a synthesis based on an analysis of historical sources. Furthermore, evidence of a student's knowledge and reasoning must always be apparent in an effective presentation. Alternative assessment in history offers a wide variety of ways for students to communicate their knowledge and reasoning: analyzing a primary source; drawing political cartoons; creating newspapers; participating in historical simulations; and writing research papers.

As teachers create assessment activities they should ask the following questions:

- Does the activity match my teaching goals?
- Does the activity adequately reflect the "Vital Themes and Narratives" in its organization of the historical content and the "Habits of Mind" that I expect my students to use in thinking about the past?
- Does the activity enable my students to demonstrate their development in historical knowledge, reasoning, and communication?
- Does the activity motivate students to demonstrate their capabilities?

A Generic Rubric for Alternative Assessment Activities. For decades, good history teachers have been using projects and activities requiring students to blend skills and knowledge across disciplines. Often, the problem has been assessing the activity.

Frederick D. Drake is Assistant Professor of History at Illinois State University; he participates in the education and certification of secondary school history teachers.

Critics have rightly cautioned that alternative assessment is susceptible to corruptibility, possible lack of sensitivity to cultural and linguistic diversity, and psychometric issues such as generalizability and reliability. We should be aware of these important problems, but a more immediate concern for classroom teachers is: Will the teacher need to create a new rubric for each assessment activity?

Recently, a generic "History Rubric for Alternative Assessment" has been developed to help teachers assess their students' knowledge, reasoning skills, and communication skills (Drake and McBride 1997). It is an analytic rubric which allows a history teacher to assess simultaneously student performance in each of the three interrelated dimensions: knowledge, reasoning skills, and communication skills.

Each dimension of the rubric is divided into six levels. Each level is defined by several criteria which reflect a student's abilities and skills. Collectively, levels 6, 5, and 4 are designed to differentiate among students whose knowledge, reasoning skills, and communication skills are developed. Collectively, 3, 2, and 1 represent knowledge, reasoning skills, and communication skills that are still developing. Level 6 represents work of a student who exhibits the most developed knowledge and skills; level 1 represents the work of a student with the lowest level of developing knowledge and skills.

How Alternative Assessment Improves the Teaching and Learning of History. A "History Rubric for Alternative Assessment" is especially appropriate and useful for assessment in history education, because the rubric benefits teachers and students alike. Teachers know that their students may perform at a more or less developed level in one dimension than in another. For example, when a student analyzes a primary source document he or she may demonstrate knowledge at a level 6, reasoning at a level 5, and communication at a level 3. An analytic rubric allows teachers to take these differences into account when assessing their students. An analytic rubric benefits students by showing them their strengths and weaknesses in each dimension. Thereby, they learn where they must place their time and effort to improve their historical knowledge, reasoning skills, and communication skills.

The effective use of a rubric requires planning and practice by teachers and students alike. Moreover, teachers must share the rubric with their students because it contains the criteria that students will have to meet as they construct historical knowledge, engage in historical reasoning, and communicate what they know and understand. Successful acquisition of knowledge and development of skills in reasoning and communication demands that both teachers and students know in advance the criteria they are seeking in each dimension, and that the students are coached about the best ways to demonstrate their abilities. For teachers, the rubric serves as a diagnostic tool; for students, it establishes the parameters for attaining success.

As students attempt initially to meet the criteria of an alternative assessment activity, they may achieve developed levels (level 6, 5, or 4) in one dimension (knowledge, reasoning skills, and communication skills), while achieving a developing level (3, 2, or 1) in the other dimensions. Reference to the rubric during consultation with their teacher will help students to organize their historical knowledge and reasoning and to consider ways to communicate effectively what they know and think about the past.

References and ERIC Resources. The following list of resources includes references used to prepare this Digest. The items followed by an ED number are available in microfiche and/or paper copies from the ERIC Document Reproduction Service (EDRS). For information about prices, contact EDRS, 7420 Fullerton Road, Suite 110, Springfield, Virginia 22153-2852; telephone numbers are (703) 440-1400 and (800) 443-3742. Entries followed by an EJ number, annotated monthly in CURRENT INDEX TO JOURNALS IN EDUCATION (CIJE), are not available through EDRS. However, they can be located in the journal section of most larger libraries by using the bibliographic information provided, requested through Interlibrary Loan, or ordered from commercial reprint services.

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by Michele Naylor

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Vocational Teacher Education Reform

The reform movements of the 1980s triggered numerous demands to reexamine and reform the way students and their teachers are educated. This *Digest* examines the implications for vocational teacher education emerging from general teacher education reform movements. It discusses how excellence in vocational education teaching can be achieved and proposes 21st century models for vocational teacher education.

Impacts of Reform Movements on Vocational Teacher Education

Several of the major reform initiatives of the 1980s and early 1990s argued that improving education requires improving teacher quality and, accordingly, teacher education. Numerous changes in teacher recruitment, preparation, and certification were proposed. (For a detailed list, see Hartley, Mantle-Bromley, and Cobb 1996.) In response to the calls for reform, general teacher education programs raised admission standards/exit requirements; revised curricula to reflect multiculturalism and new K-12 standards; paid more attention to pedagogy, teaching practice, and relevance; included clinical experiences in public schools and other learning environments; and proposed new model standards/principles for licensing beginning teachers (Lynch 1997).

As of 1989, the only major impacts of national education reform movements on vocational teacher education at the macro (national) level were stiffer requirements for entry into teacher education programs and, to a lesser extent, more credit hours/time devoted to student teaching/clinical-type experiences with public schools (Lynch 1991). Until 1993, the discussion of reform of teacher education in the vocational education literature was limited to individual authors' suggestions for a vocational education response to reform initiatives and comments on the problems posed by pressures for reform (Lynch 1997).

In response to mounting evidence of the deterioration of vocational teacher education, (Dykman 1993), the University Council for Vocational Education and the National Association of State Directors of Vocational Technical Education Consortium formed a joint task force that identified 13 points for initiating a reform process entailing designing and implementing a customer-driven learning system and an accountability system (Lynch 1997). Like earlier publications examining general teacher education, the responses to the task force report focused on the need for excellence in vocational teacher education.

Issues in Achieving Excellence

Debate on the question of how to pursue excellence in vocational teacher education programs focused on vocational education's mission, audience, and delivery.

New Mission?—Until the advent of the reform movement, vocational education had been viewed as a separate system of education intended to meet the nation's labor needs by providing below-college-level training for specific occupations (Lynch 1997). In the late 1980s, that view began to change. Borrowing words used by Dewey in 1916, Tozer and Nelson (1988) urge vocational teacher educators to teach prospective teachers to provide students with generalizable higher-order skills by teaching "*through vocations instead of for vocations*" (p. 22). Sharp (1996), in his discussion of the transition to a "post-Fordist" economy, asserts that the recent blurring of traditional distinctions between mental and manual occupations and between academic and vocational education necessitates changing vocational teacher education so that future teachers can develop a new core work force with the technical and interpersonal skills required for a less hierarchical workplace. Gregson (1993) contends that vocational teacher educators must learn to produce teachers capable of transforming their students into the critical thinkers and problem solvers needed to make workplaces more democratic and emancipatory. Miller (1996) asserts that the mission of vocational education (and thus vocational teacher education) should be based on the principles of constructivism. Constructivism is a cognitive approach that emphasizes "constructing" knowledge through a problem-solving process designed to produce "learners who are problem solvers, lifelong learners, makers of meaning, collaborators, change agents who are also able to change, and practitioners of democratic processes" (ibid., pp. 69-70).

New Audience?—Vocational education's changing audience has been another impetus for change in vocational teacher education programs. Rudolph, Fry, and Barr (1985) and Nolan and Venable (1988) underscore the importance of developing preservice and inservice educational activities to equip vocational education teachers with the knowledge and skills required to serve the growing numbers of minorities, at-risk students, itinerant populations, and adult students enrolled in vocational education programs.

New Curriculum?—Hartley et al. (1996) propose a restructured teacher preparation program incorporating integrated content, integrated academic and work-based learning, partnerships with businesses/industries, full range of clinical experiences and applied instructional and curricular technology, and a degree required to teach (as opposed to alternative certification). Nolan and Venable (1988) emphasize the importance of responding to changing vocational student demographics by supplementing vocational education teacher curricula with courses in the psychology and learning processes of adult learners. Copa and Plihal (1996) question whether the vocational education curriculum should remain a collection of separate fields or be restructured into a "comprehensive subject for learning about work, family, and community roles" (p. 98).

New Teaching Methods?—Gregson (1993) urges vocational teacher educators to replace their traditional "master-apprentice" relationship to their students with a critically oriented approach in which they view students as active learning partners, implement cooperative learning and choice, make learning experiences relevant and meaningful, encourage active citizenship, and create an environment conducive to reflective thinking. Biggs, Hinton, and Duncan (1996) assert that contemporary approaches to education (tech prep, integrated curriculum, cognitive and work-based apprenticeship, career academies, and magnet schools) require teachers to develop new methods suitable to their new roles as collaborators, facilitators of learning, and lifelong learners; become as familiar with the workplace as they are with the school setting; and make school settings reflect workplace environments. They also emphasize the importance of conducting prospective teachers' clinical learning experiences in schools that integrate teacher development and instructional programs and have a diverse student population.

New Assessment Methods?—Johnson and Wentling (1996) advise vocational teacher educators to abandon the traditional "testing culture" in favor of an "assessment culture" that is characterized as follows: an occasion for learning rather than testing; formative and ongoing; based on a criterion-referenced philosophy of evalu-

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ation that focuses on accomplishment rather than rank; based on what prospective teachers are expected to know rather than what is easy to score; and entailing the use of multiple performance assessments, teaching portfolios, and assessment centers.

New Requirements?—Some advocate easing educational requirements and establishing alternative certification routes (especially in occupational areas suffering from a lack of teachers), whereas others champion extended-time programs of study at the baccalaureate or master's level and/or probationary periods before vocational teachers are granted permanent certification (Dykman 1993). Griggs and Burnham (1988) and Luft, Zimmerer, and Kercher (1988), however, find little empirical evidence that more stringent academic/graduation, program, professional education, specialty area, and teacher certification requirements would increase teacher effectiveness.

Models for Vocational Teacher Education in the 21st Century

Lynch (1997) offers the following principles as a foundation for vocational teacher education programs: (1) faculty are committed to students and their professional development as lifelong learners; (2) faculty use curriculum and instructional techniques to integrate theory with practice, academic and work force education, professional education and subject matter, and learning theory and work force preparation; (3) faculty understand the philosophy and effective practice of work force preparation and development; (4) faculty use dynamic pedagogy based on learning theory and practices appropriate for youth and adults; (5) faculty are partners in learning communities through which they model collaboration and democratic processes for their students; (6) programs are dynamic and change oriented; (7) programs are grounded in academic education, workplace subject matter, technology, professional education, and clinical practices; (8) colleges/universities provide adequate resources to sustain programs at high quality levels; and (9) academic and clinical faculty view vocational and technical educator preparation as a top priority (p. 57).

One model for work-based teacher education programs consists of the following components (Lynch 1997): (1) assessment; (2) curriculum framework (general education; common core and specialized work force education and work force preparation processes; knowledge of the learner, pedagogy, instructional technology, and professional education; and occupational and education clinical experiences); (3) standards of knowledge and practice; (4) principles of vocational and technical teacher education; and (5) philosophical foundations (pragmatism, progressivism, and constructivism).

The need for lifelong professional development for vocational education teachers is another important theme throughout the reform literature. Niven (1993) lists 15 innovative techniques for delivering distance professional development programs in the workplace, including directed reading, project work, telephone tutorials, mentoring, interactive video, electronic mail, and television/ radio broadcasting.

Vocational teachers are being expected to know more than ever before. On the one hand, they are expected to keep pace with rapid technological advancements in their occupational field and in the teaching profession. On the other hand, they are expected to reach out to new, nontraditional audiences. These increased expectations are increasing pressure to make the process of becoming a vocational teacher lengthier, more rigorous, and more costly. As Dykman (1993) points out, however, making it more difficult for individuals to become vocational education teachers may exacerbate the problems of declining enrollments in vocational teacher education programs and shortages of vocational education teachers in many high-demand fields (such as health occupations). Proposed changes in vocational teacher education and certification programs be weighed carefully to obtain the greatest possible improvements in program quality at the lowest possible cost.

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Priority 6: Technology in the Classroom

Every classroom will be connected to the Internet by the year 2000 and all students will be technologically literate.

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Clearinghouse on Information & Technology

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DIGEST

June 1998

EDO-IR-98-04

The Benefits of Information Technology

by John Kosakowski

More than three decades ago, computers and related information technologies were introduced to educators as educational tools. Today, there are computers of various descriptions in nearly all schools in the United States. Teachers, school administrators, government officials, and others faced with the costs involved in technology implementation must constantly evaluate the educational benefits of technology. Is there research or other evidence that indicates computers and advanced telecommunications are worthwhile investments for educators? This Digest summarizes the observed benefits of technology implementation. The importance of evaluating the effects of technology on learning is also addressed.

Applications of Technology to Basic Skills

Using educational technology for drill and practice of basic skills can be highly effective according to a large body of data and a long history of use (Kulik, 1994). Students usually learn more, and learn more rapidly, in courses that use computer assisted instruction (CAI). This has been shown to be the case across all subject areas, from preschool to higher education, and in both regular and special education classes. Drill and practice is the most common application of CAI in elementary education, the military, and in adult educational settings. Fletcher, et al (1990) reports that in the military, where emphasis is on short and efficient training time, the use of CAI can cut training time by one third. In the military, CAI can also be more cost-effective than additional tutoring, reduced class size, or increased instruction time to attain equivalent educational gains.

Applications of Technology to Advanced Skills

The application of educational technologies to instruction has progressed beyond the use of basic drill and practice software, and now includes the use of complex multimedia products and advanced networking technologies. Today, students use multimedia to learn interactively and work on class projects. They use the Internet to do research, engage in projects, and to communicate. The new technologies allow students to have more control over their own learning, to think analytically and critically, and to work collaboratively. This "constructivist" approach is one effort at educational reform made easier by technology, and perhaps even driven by it. Traditional lecture methods are often left behind as students collaborate and teachers facilitate. Students, who often know more about technology than the teacher are able to assist the teacher with the lesson. Since this type of instructional approach, and the technologies involved with it, are recent developments, it is hard to gauge their educational effects. Still, an increasing body of evidence as presented by Bialo and Sivin-Kachala (1996) for example, suggests positive results. The Apple Classrooms of Tomorrow (Dwyer, 1994), a 10-year project where students and teachers were each given two computers, one for school and one for home, illustrates some of the gains made in students' advanced skills. ACOT reports that students:

- Explored and represented information dynamically and in many forms
- Became socially aware and more confident
- Communicated effectively about complex processes
- Became independent learners and self-starters
- Worked well collaboratively
- Knew their areas of expertise and shared expertise spontaneously and
- Used technology routinely and appropriately.

Another effort called the Buddy Project (Indiana's Fourth Grade, 1990) supplied students with home computers and modem access to school. Positive effects included:

- An increase in writing skills
- Better understanding and broader view of math
- Ability to teach others, and
- Greater problem solving and critical thinking skills.

Effects of Technology on Student Attitudes

Numerous studies over the years, summarized by Bialo and Sivin-Kachala (1996), report other benefits enjoyed by students who use technology. These benefits involve attitudes toward self and toward learning. The studies reveal that students feel more successful in school are more motivated to learn and have increased self confidence and self esteem when using CAI. This is particularly true when the technology allows the students to control their own learning. It's also true across a variety of subject areas, and is especially noteworthy when students are in at-risk groups (special education, students from inner-city or rural schools).

On-Line Technologies

The Internet and advanced networking technologies are comparative newcomers to the classroom. Efforts such as Net Day and e-rate discounts enacted by the Telecommunications Act (Telecommunications Act, 1996) make it easier for many classrooms around the country to connect to the Internet. Although a large body of research on the effects of the Internet in the classroom does not yet exist, recent studies illustrate some observed positive effects. A study by the Center for Applied Special Technology (1996) shows significantly higher scores on measures of information management, communication, and presentation of ideas for experimental groups with on-line access than for control groups with no access. Also, students in the experimental group reported significantly increased use of computers in four different areas—gathering information, organizing and presenting information, doing multimedia projects, and obtaining help with basic skills.

Use of Technology by Teachers and Administrators

Teachers and administrators use computer and information technologies to improve their roles in the educational process. Some examples include:

- Using computer tools to streamline record keeping and administrative tasks, thereby helping to free up time for instruction or professional development
- Decreasing isolation by using e-mail and the Internet to communicate with colleagues, parents, and the outside world, and

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- Increasing professional development activities by taking distance education courses, accessing educational research, and accessing classroom materials such as lesson plans.

Factors that Help Technology Succeed

Some of the observed benefits associated with educational technology have been reviewed above, but what are the factors that help technology succeed in bringing about these benefits? Glenna & Melmed (1996) and the Technology Counts analysis suggest the following factors observed in successful technology-rich schools:

- **Evidence of a detailed technology plan.**
  Such a plan should consider funding, installation and integration of equipment, ongoing management of the technology. The plan should also express a clear vision of the goals of the technology integration.
- **Teacher training and continuing education.**
  Teachers should know how to operate the technology and how to integrate it into the curriculum.
- **Support from administration.**
  Administrative support can come in the form of funding, or in restructuring schedules and physical space to reflect the new learning environment.
- **Support from the community.**
  Parents, businesses, and community members can use technology as a springboard to become more involved in the activities of neighborhood schools. All can help with wiring or technical support. Parents can use e-mail to facilitate communication with teachers and administrators. Businesses can use e-mail to help mentor students and help them prepare for the workplace.
- **Support from government.**
  Adequate funding and appropriate policy making can help to assure that technology is accessible to all schools on an equal basis.

These factors suggest that to succeed, technology, like any educational tool, cannot exist in isolation, but must be made an integral part of the entire instructional process.

Evaluating the Impact of Technology

Traditional methods of evaluating the effectiveness of educational technology present a number of problematic issues. Glenna & Melmed (1996) state these succinctly:

- Most available tests do not reliably measure the outcomes being sought. The measures that are reported are usually from traditional multiple-choice tests. New measures need to be developed which would assess the higher-level skills and other effects often affected by technology
- Assessments of the impact of technology are really assessments of the instructional processes enabled by technology, and the outcomes are highly dependent on the quality of the implementation of the entire instructional process. Crucial elements include instructional design, content, and teaching strategies associated with both the software and the classroom environment
- The very dynamic nature of technology makes meaningful evaluation difficult. By the time long-term studies are completed, the technology being evaluated is often outdated.

The U.S. Department of Education and Educational Testing Service (ETS) report that new methods of evaluation that look at technology in context are being investigated. These methods will focus ideally not on the question "Does technology work?" but rather on how it impacts the various components of the educational process.

Summary

Technology has been shown to have positive effects on the instructional process, on basic and advanced skills. Technology is also changing the instructional process itself. To be effective, technology cannot exist in a vacuum, but must become part of the whole educational environment. New measures of evaluation are under development which would help to better define the role of technology in its wider context.

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This ERIC Digest was prepared by John Kosakowski, *john@ericir.syr.edu*, AskERIC Network Information Specialist.

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ERIC Clearinghouse on Information & Technology, Syracuse University, 4-194 Center for Science and Technology, Syracuse, New York 13244-4100; (315) 443-3640; (800) 464-9107; Fax: (315) 443-5448; E-mail: *eric@ericir.syr.edu*; URL: *http://ericir.syr.edu/ithome*

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Clearinghouse on Information & Technology

ERIC DIGEST

March 1999 EDO-IR-99-04

Building and Maintaining Digital Reference Services

by Joann M. Wasik

Easily accessible digital information has rapidly become one of the hallmarks of the Internet. Online resources have surged in popularity as more individuals and organizations have connected to the global network. Thousands of organizations have turned to Internet-based information delivery as an effective and cost-efficient alternative to traditional communication methods, and many have expanded their services further by interacting with their users and responding to inquiries via the Internet.

Digital reference services (also known as "AskA services," as in "Ask-an-Expert") provide subject expertise and information referral over the Internet to their users. This Digest provides an overview of the growing digital reference movement and its implications on sponsoring organizations, and examines current practices in the creation and maintenance of such services.

What is Digital Reference?

Digital reference and AskA services are Internet-based question-and-answer services that connect users with experts in a variety of subject areas. In addition to answering questions, experts may also provide users with referrals to other online and print sources of information. As opposed to traditional expert systems that attempt to capture and model problem-solving tasks in a manner similar to humans, digital reference services use human intermediaries, or experts, to answer questions and provide information to users. The question/answer process in digital reference services is modeled after the methods practiced by reference librarians in traditional library settings. As in a face-to-face interview, experts determine the amount of information appropriate for the user, the applicability of that information, and the level of information required. User queries must occasionally be clarified, and an online reference interview may be conducted to help define the user's information needs.

History of Digital Reference

The origins of digital reference can be traced to the library field, where libraries sought to augment traditional services by providing reference assistance in an electronic environment. One of the first services to go online was the Electronic Access to Reference Service (EARS), launched by the University of Maryland Health Services Library in Baltimore in 1984 (Wiese & Borgendale, 1986). Although initial e-mail-based digital reference efforts received little attention from patrons (Still & Campbell, 1993), digital reference services proliferated over time and became increasingly popular, eventually spawning such internationally-known services as AskERIC in 1992 and the Internet Public Library in 1995.

During the past several years, digital reference services have become important and effective resources for meeting the information needs of thousands of users, and the number of user requests to these service has continued to increase. In September of 1996, KidsConnect, a question-and-answer, help, and referral service for K–12 students on the Internet, experienced 1000% growth— from 20 questions a week to 200 questions per week (Lankes, 1998). With proper planning, AskA services can effectively manage high volumes of questions and prevent disruptions in service. Services that are launched prematurely, however, may not be prepared for the potential impact a global audience may have on their organizations.

Implications of Digital Reference

The dynamic nature of the Internet creates an ever-changing information environment and transforms the way information is delivered and accessed. As greater numbers of users connect to the Internet, user expectations for more immediate access to information and knowledge resources steadily rises. While many organizations realize that their best response to shifting user demands is proactive rather than passive service (Cargill, 1992), the online environment can raise important issues for those interested in offering digital reference services.

The creation and maintenance of Internet-based question-and-answer services can be fraught with difficulties. AskA services often struggle with issues such as how to maintain consistent quality of service, which user populations to serve, and how to respond to question overload. The need to secure funding for continued operation also figures prominently in the building and maintaining of digital reference services. Many services devote much time to the pursuit of grants, corporate sponsorship, or non-profit status (Wasik, 1998). Despite such potential problems, organizations offering digital reference services find many rewards. AskA services serve the public good by providing valuable information in a timely fashion, and have the potential to gain international visibility. Parent organizations of many services reap enhanced public relations benefits by having satisfied users and by providing high-quality information. Accessible 24–hours a day and unrestricted by geography, digital reference services are a powerful means for the free exchange of information and the promotion of interactive learning.

A lack of information resources for practitioners of digital reference, however, has allowed many AskA services to go online without a clear understanding of either the process of digital reference itself or how to develop and manage such services effectively. Since many of these services struggle and sometimes fail altogether, methods and standards have been proposed to ensure a consistent level of quality for digital reference and to provide guidance in the introduction of new services. Organizations interested in offering Internet-based information services must understand not only the fundamental tenets of the question-and-answer process, but also how this information is processed and translated into actual service.

How Digital Reference Services Work

Although there are slight variations among services, all digital reference and AskA services function in a similar manner. Human intermediaries evaluate incoming questions via e-mail or Web inter-

face, and then decide on an appropriate course of action. New questions may be checked against an archive of previously answered questions for an appropriate answer, and if no suitable answer is found, passed along to an expert for answering. The expert supplies the necessary information, which may consist of an actual answer (factual information), pointers to additional resources (information referral), or some combination. Responses are sent to the user's e-mail address or posted to a Web site for the user to access at a later date. In some smaller AskA services, the experts themselves may also monitor the incoming questions.

The task of creating and managing Internet-based question-and-answer services is complicated by the ever-changing nature of the Internet. Lankes (1998☎) examined exemplary K–12 AskA services to determine how such services answered questions, processed information, and operated in a highly complex online environment. Lankes identified five fundamental components that commonly exist in the methods used by digital reference services to answer questions, and which in turn form the basis of a conceptual framework, or "meta-description," of the question/answer process.

Services receive questions electronically (*Question Acquisition*), then route the questions to an appropriate expert according to a set of internal rules. The questions progress to a *Pool of Possible Respondents*, where they are queued according to some criteria, such as user need, date received, etc. In services staffed by multiple experts, some sort of triage may be initially performed to help expedite the answer process, such as selecting the best expert to answer a particular question. The expert composes an answer in compliance with service policy (*Expert Answer Generation*), and replies are sent to the users (*Answer Sent*). The final component of Lankes' meta-description, *Tracking*, identifies popular subjects and trends that may be used to compile statistics or generate archives.

Viewed in its entirety, the meta-description reveals a level of convergence in the volatile online environment. By identifying a set of common methods in the question/answer process, organizations may develop a series of planning documents to assist in the creation and ongoing maintenance of digital reference services.

Building and Maintaining Digital Reference Services

Based on Lankes' meta-description, a six-step process was developed to aid organizations in the creation and operation of digital reference services (Lankes & Kasowitz, 1998☎). The *AskA Starter Kit* describes each of the six steps in a series of instructional modules. The information presented in the *AskA Starter Kit* is applicable to a wide variety of organizations and audiences including the K–12 education community, government agencies, libraries, and industry. The six stages are briefly outlined as follows:

1. **Informing:** Nascent AskA services conduct preliminary research both into the field of digital reference and into existing services in their area of expertise.
2. **Planning:** AskA services' policies, procedures, and methods must be developed and evaluated to ensure alignment with overall organizational goals.
3. **Training:** The development of a comprehensive training plan, including training materials, activities, and tools, is necessary for the preparation of an effective staff.
4. **Prototyping:** Many digital reference services fail because they are launched prematurely. Services that are first pilot-tested in a controlled environment can identify and correct problems with minimal inconvenience.
5. **Contributing:** Upon launching an AskA service, it is important to institute the development of ongoing publicity and resource development to support the service.
6. **Evaluating:** As with any service, digital reference services benefit from regular evaluations to ensure a quality product and to gather data for continued support from the organization.

The six-step process reveals an overall methodology that many digital reference services do not employ. Due to inadequate planning and perhaps inexperience with Internet-based information delivery systems, many services experience question overloads and are often forced to cease operations as a result. Systematic planning and training such as that outlined in the *AskA Starter Kit* can help digital reference practitioners create robust, high-quality services.

In today's rapidly changing information environment, digital reference and AskA services are important tools that support learning and promote intellectual inquiry. The need for specialized training and information resources for digital reference providers has become increasingly critical as the popularity of such services continues to grow. Without proper planning and without an understanding of digital reference practices, many services will experience significant difficulties. New research and information resources, however, seek to promote standards and practices to ensure high-quality service, and the effective creation and maintenance of exemplary digital reference services.

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This Digest was prepared by Joann Wasik, Virtual Reference Desk Research Consultant and Communications Officer.
jmwasik@vrd.org

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DIGEST

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Evaluating Online Educational Materials for Use in Instruction

by Robert M. Branch, Dohun Kim and Lynne Koenecke

Introduction

The Web publishing revolution can be compared to the desktop publishing revolution. With the widespread use of personal computers and desktop publishing software, the construction of printed publications was sometimes put into the hands of novices. Sometimes the editors and layout artists were removed from the equation. Some publications were very good; many were not.

With the Internet, anything can be published on the Web at a low cost and distribution is virtually worldwide. Profuse amounts of information are put on the Internet every day. In many cases there is no editor, reviewer, or any other kind of review mechanism to determine the credibility, quality, accuracy, or timeliness of the material.

This problem magnifies when searchers find incorrect or out-of-date materials that are supposed to be used in instruction. An unsuspecting learner might be exposed to incorrect information retrieved by the instructor. It is imperative that information gathered on the Web be subject to the same strenuous critique as information that previously would have been gathered from books and other publications.

This Digest will help teachers select good resources to use in their instruction by providing a checklist to evaluate online educational materials.

Getting Started: How to Find Good Sites

There are many useful, high quality Web pages. Many sites have been reviewed, authenticated, or sponsored by highly reputable organizations. Some sites are dedicated to gathering valuable educational resources for educators (see suggested sites on next page). Find some reputable organizations in your field of study that act as reviewers for the Web. A wise beginning strategy would be to ask questions of your school's library media specialist.

If you need to search and find good sites by yourself, the first task to master is searching for pages relevant to your subject. One must research and practice searching techniques to narrow search results to pages that are most probably relevant to the search topic. After learning to effectively find topical Web pages, the next, and probably most critical task, is assessing the pages found. How, then, do teachers determine if their findings are jewels or just stones?

A Checklist for Evaluating Online Educational Materials

The following are seven major topic areas to consider when evaluating web-based materials for use in instructional settings.

1. **Judge the accuracy of the information and take note of the date modified.**

Sub-questions to ask yourself:

- Does the site provide evidence that it comes from reputable sources?
- Does the site contain any obvious biases, errors, or misleading omissions in the document?
- Does the site contain advertising that might limit the nature of the content?
- Is the information current and up-to-date?

2. **Is the level of information in this site appropriate for the intended audience?**

Sub-questions to ask yourself:

- Does the site contain information appropriate for the intended learners with respect to their maturity and cognitive abilities?
- Does the site contain any extraneous and unsuitable vocabulary, language or concepts, bias, or stereotyping?

3. **Is the information in this site presented clearly?**

Sub-questions to ask yourself:

- Is the information arranged in an orderly fashion?
- Is the information presented clearly?

4. **Is the information in this site closely related to purpose, content, activity, and procedures?**

Sub-questions to ask yourself:

- Is there a clear tie among the purpose, content, and procedures suggested?
- Does the site contain any activities irrelevant to the topic?
- Does the site contain any redundant or isolated activities without a relationship to objectives?

5. **Is the information in this site complete in scope and ready for use?**

Sub-questions to ask yourself:

- Does this site contain complete breadth and depth of information related to the topic it claims to cover?
- Are there any content gaps in concept development?

6. **If a website has activities, are the content, presentation method, and learner activity potentially engaging?**

Sub-questions to ask yourself:

- Are the suggested activities challenging, interesting, and appealing for the intended learners?
- Does the information in the site emphasize and promote relevant action on the part of the learner?
- Does the site have the potential for developing confidence and satisfaction as a result of learner effort?

7. **If it claims to be comprehensive, is the information in the site well organized?**

Sub-questions to ask yourself:

- Is the information in the site easy to use and logically sequenced, with each segment of the resource related to other segments?
- Does the information flow in an orderly manner, use organizing tools (e.g., a table of contents, a map, or headings), and avoid the use of unrelated elements that are potentially ineffective or overpowering?
- Are references, bibliographies, or other supporting evidence provided?

After you are comfortable recognizing the elements of good sites by using the above seven questions and sub-questions, find and evaluate some sites on your own. With some practice, finding and evaluating Web materials for instruction will become second nature. Keep in mind that instruction might be found in different sized chunks. You might find several parts in different places to construct your own lesson, or you might find good entire lesson plans.

A Good Starting Point: Suggested Web Sites

There are many starting points on the Web that are very helpful when looking for tools to evaluate websites. Listed below are some helpful sites.

Web Resource Evaluation Related Sites

- Bibliography on Evaluating Internet Resources. A comprehensive bibliography of sites that deal with this topic. *http://refserver.lib.vt.edu/libinst/critTHINK.HTM*
- Criteria for evaluating information resources. *http://www-lib.usc.edu/Info/Sci/pubs/criteval.html*
- Critical Thinking and Internet Resources. Includes: WWW CyberGuide Ratings for Content Evaluation, Teaching Critical Evaluation Skills for WWW Resources, Evaluating Quality on the Net, Thinking Critically about WWW Resources. *http://www.mcrel.org/connect/plus/critical.html*
- Evaluating Internet Resources—A Checklist. *http://library.berkeley.edu:8000/bkmk/select.html*
- Evaluating Websites. Bill Trochim provides useful information and tools for evaluating websites. *http://trochim.human.cornell.edu/WebEval/webeval.htm*
- Evaluating Websites for Educational Uses: Bibliography and Checklist. *http://www.unc.edu/cit/guides/irg-49.html*
- Guidelines for Evaluating Internet Information. *http://info.wlu.ca/~wwwlib/libguides/internet/eval.html*
- Internet Detective. An interactive tutorial which provides an introduction to the issues of information quality on the Internet and teaches the skills required to evaluate critically the quality of an Internet resource. Free, but requires registration. *http://sosig.ac.uk/desire/internet-detective.html*
- Internet Source Validation Project. How to Evaluate Web Pages *http://www.stemnet.nf.ca/Curriculum/Validate/validate.html*
- Kathy Schrock's Guide for Educators–Critical Evaluation Information. A series of evaluation tools, one each at the elementary, middle, and secondary school levels, are provided to help students critically evaluate a Web page. *http://discoveryschool.com/schrockguide/eval.html*
- Selection Policy for Resources and Evaluation Criteria Rating System for Web Sites From AASL *http://www.ala.org/ICONN/curricu2.html*
- Web Site Evaluation. A Collection of Research Papers and Surveys. The links on this page provide criteria that can be used to make judgments about educational Web sites in K–12 and higher education contexts. *http://web.syr.edu/~maeltigi/Research/RIGHT.HTM*
- Web Site Evaluation Guidelines from Ed's Oasis. *http://www.edsoasis.org/Guidelines.html*

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This Digest was prepared by Robert M. Branch <*rbranch@coe.uga.edu*>, Associate professor in the Department of Instructional Technology, College of Education at the University of Georgia; Dohun Kim <*dokim@coe.uga.edu*> and Lynne Koenecke <koenecke@mindspring.com>, University of Georgia doctoral students.

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Indiana University
2805 E. 10th St., Suite 150
D137
Bloomington, IN 47408-2698
(812) 855-5847; (800) 759-4723

Guidelines for Evaluating Web Sites

by Mardziah Hayati Abdullah

With increased access to the Internet, Web sites are becoming popular educational resources. Not every site makes a good resource, however, so how does one decide whether a site is worth using? The following checklist, compiled from several sources, is a summary of criteria for evaluating Web sites. the more criteria a site meets, the more likely it is to be a valuable resource.

Technical considerations

- Verify that the Web site's important capabilities, such as graphics or animations critical to the subject matter, can be utilized with the technology you have available. Some sites require more advanced browsers.
- The page should be stable, that is, consistently available.
- All the links and special features such as audios must be functioning; it is disconcerting if "Error" messages appear.
- If there is a fee for using the site, the site should provide a secure way to send payment.

Purpose

- A site's purpose should be clear, and its content should reflect that purpose, be it to entertain, educate, or sell.
- Advertising should not overshadow the content.

Content

- A site's content should be comprehensible, appropriate, and of value to the intended audience. Awards won by a site may suggest quality but may also be little more than advertising banners for the issuing agencies.
- There should be enough information to make visiting the site worthwhile. Information on how often the site is visited may indicate its usefulness.
- Although there may be variations in how information is ordered, the organization should generally be logical.
- Sites that promote social biases (e.g., gender, racial, or religious biases) should be rejected or critically reviewed.
- If there are large amounts of information on the site, there should at least be a site map or outline of topics that allows users to find topics and move among them easily. A search function for locating information within the site would also be useful.
- The information should be current, accurate, and regularly updated. A "last updated" notification is a useful feature.
- Copyright information is useful if you anticipate copying a substantial amount of the content for dissemination.
- Links to more information on the topic should be provided.
- Graphics should be relevant and appropriate to the content.

Authorship/Sponsorship

- The name of the individual or group creating the site should be clearly stated.
- The Web site author or manager should provide contact information for users to make comments or ask questions.
- Where applicable, reference sources for information cited should be provided.
- Sites that clearly violate copyright statutes or other laws should not be linked, listed, or recommended.

Functionality

- Language used in messages and instructions should be clear, concise and easy to understand.
- The skills required to use the site's features should be appropriate for its intended audience.
- Navigation within the site should be easily carried out. Required "plug-ins" or other helper applications should be clearly identified, and navigational buttons should be of a consistent shape and location. Links should be descriptive of the content, and link text items should sound like invitations to *content*, not "click me/this/here."
- If a search function is available, instructions for conducting searches should be provided.
- There should be consistency in the use of features such as headers, backgrounds, fonts, and colors, particularly when they act as thematic pointers (e.g., sub-headings use a smaller font than major headings).
- A text-only option is useful for sites with a lot of graphics; otherwise, download time may be too lengthy. Generally, wait time should not exceed 15-20 seconds.

Mardziah Hayati Abdullah is an Associate Instructor with the Language Education Department at Indiana University, a Reference Specialist at the ERIC Clearinghouse on Reading, English, and Communication, and a faculty member of Universiti Putra Malaysia.

- If necessary, look for features catering to the needs of special populations such as visually impaired and hearing-impaired users. For example, images conveying important messages such as page titles or links should come with alternative text (text that is displayed when the cursor moves over the image), so that visually impaired users using screen readers will hear the relevant text when the cursor is over the image. Audio clips that convey important content (such as lyrics or announcements) must have optional links to readable text for hearing-impaired users.

Design/Aesthetics

- The site design should be appropriately appealing to its intended audience.
- The text should be easy to read, and not cluttered with distracting graphics, fonts, and backgrounds. There should be appropriate "white space," that is, space that is not occupied by text or graphics.
- The design elements and features on the site, such as searchable databases, animations, graphics, sound files, and transitional pages, should be labeled and explained clearly.
- The site should make use of conventional rather than cute but confusing features. For example, hypertext should be in blue text rather than buttons without accompanying text.
- Links should not lead to so many levels that it is difficult for users to get back to the page they started from.
- Sometimes the same site looks different on different browsers. Colors, graphics, and text may change. If you are looking at a Web site on your own computer, check to see how it will appear on the computers that other users, such as students, will be using.
- The color scheme should not be too gaudy and hurtful to the eye. Most experts recommend that a site contain no more than four colors, with a limit of seven throughout the site. Some suggest that a site contain both warm colors (e.g., red, orange, yellow) and cool colors (purple, blue, green). The most important consideration, however, is whether the colors distract from the main message.
- The colors may also need to be appropriate for color-deficient users, who tend to see everything in shades of green and grey, so check to see whether important messages are conveyed by differences or changes in color.
- A site has better readability if dark text appears on a light background, or vice versa. If pages need to be printed, pages using light backgrounds and dark text will produce better hard copies than pages with dark backgrounds and light text.
- Large images should be presented in thumbnail versions, with links to the larger versions.

Online sources of evaluation criteria

- Two useful online sources of criteria for evaluating Web sites for children are located at:

  ❑ Selection Criteria
  (http://www.ala.org/parentspage/greatsites/criteria.html)
  ❑ Kids Site Selection Guidelines
  (http://www.scout.cs.wisc.edu/scout/kids/selection.html)

- A comprehensive list of criteria for evaluating Web resources in general is provided by Ann Symons in "Sizing Up Sites: How to Judge What You Find on the Web" in the School Library Journal, v43 n4 p22-25, April 1997, currently available on the online Expanded Academic Full-text Elite database, and as ERIC Database document number EJ543163.

- A Web-based public service offered by the Center for Applied Special Technology (CAST), called *Bobby*, analyzes Web pages for their accessibility to people with disabilities as well as their compatibility with various browsers. This service is currently available at: http://www.cast.org/bobby/

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ERIC DIGEST

February 1999

EDO-IR-99-02

Information Literacy

by Eric Plotnick

This Digest is based on *Information Literacy: Essential Skills for the Information Age* by Kathleen L. Spitzer with Michael B. Eisenberg & Carrie A.Lowe

Definition of Information Literacy

Although alternate definitions for information literacy have been developed by educational institutions, professional organizations and individuals, they are likely to stem from the definition offered in the Final Report of the American Library Association (ALA) Presidential Committee on Information Literacy, "To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information"(1989, p. 1). Since information may be presented in a number of formats, the term *information* applies to more than just the printed word. Other literacies such as visual, media, computer, network, and basic literacies are implicit in information literacy.

The Evolution of a Concept

The seminal event in the development of the concept of information literacy was the establishment of the ALA Presidential Committee on Information Literacy whose final report outlined the importance of the concept. The ALA Presidential Committee precipitated the formation of the National Forum on Information Literacy, a coalition of more than 65 national organizations, that seeks to disseminate the concept. The development of information literacy in K–12 education began with the publication of *A Nation at Risk* in 1983. This was soon followed by *Educating Students to Think: The Role of the School Library Media Program* (1986), a concept paper outlining the role of the library and the role of information resources in K–12 education. Kulthau's *Information Skills for an Information Society: A Review of Research* (1987) included library skills and computer skills in the definition of information literacy. The American Association of School Librarians' (AASL) 1988 publication, *Information Power: Guidelines for School Library Media Programs*, and its 1998 publication *Information Power: Building Partnerships for Learning* emphasize the notion that the mission of the school library media program is "to ensure that students and staff are effective users of ideas and information."

Information Literacy Research

Three themes predominate in research on information literacy.

- Information literacy is a process. Information literacy skills must be taught in the context of the overall process.
- To be successful, information literacy skills instruction must be integrated with the curriculum and reinforced both within and outside of the educational setting.
- Information literacy skills are vital to future success.

An Economic Perspective

The change from an economy based on labor and capital to one based on information requires information literate workers who will know how to interpret information.

- Barner's (1996) study of the new workplace indicates significant changes will take place in the future. Information technology is decentralizing the work force. The work force will be more diverse and the economy will increasingly be more global. The use of temporary workers will increase. These changes will require that workers possess information literacy skills.
- The SCANS (1991) report identifies the skills necessary for the workplace of the future. Rather than report to a hierarchical management structure, workers of the future will be required to actively participate in the management of the company and contribute to its success. The workplace will require workers who possess skills beyond those of reading, writing and arithmetic.

National and State Standards

With the passage of the Goals 2000: Educate America Act (1994), subject matter organizations were able to obtain funding to develop standards in their respective subject areas. Information literacy skills are implicit in the National Education Goals and national content standards documents.

- Three of the eight National Education Goals demonstrate the critical nature of information literacy to an information society: Goal 1: School Readiness; Goal 3: Student Achievement and Citizenship; Goal 6: Adult Literacy and Lifelong Learning.
- An analysis of national content standards documents reveals that they all focus on lifelong learning, the ability to think critically, and on the use of new and existing information for problem solving.
- Individual states are creating initiatives to ensure that students attain information literacy skills by the time they graduate from high school. Kentucky (1995), Utah (1996), and California (1994) are but three examples of states that have publications depicting these initiatives.
- National content standards, state standards, and information literacy skills terminology may vary, but all have common components relating to information literacy.

K-12 Education Restructuring

Educational reform and restructuring make information literacy skills a necessity as students seek to construct their own knowledge and create their own understandings.

- Educators are selecting various forms of resource-based learning (authentic learning, problem-based learning and work-based learning) to help students focus on the process and to help students learn from the content. Information literacy skills are necessary components of each.
- The process approach to education is requiring new forms of student assessment. Students demonstrate their skills, assess their own learning, and evaluate the processes by which this

learning has been achieved by preparing portfolios, learning and research logs, and using rubrics.

Information Literacy Efforts in K–12 Education

Information literacy efforts are underway on individual, local, and regional bases.

- Imaginative Web based information literacy tutorials are being created and integrated with curriculum areas, or being used for staff development purposes.
- Library media programs are fostering information literacy by integrating the presentation of information literacy skills with curriculum at all grade levels.
- Information literacy efforts are not being limited to the library field, but are also being employed by regional educational consortia.
- Parents are encouraging their children to develop information literacy skills at home by contacting KidsConnect, the Internet help and referral service for K–12 students. Parents are also helping students work through the information problem solving process as they assist their children with their homework.

Information Literacy in Higher Education

The inclusion of information competencies as a graduation requirement is the key that will fully integrate information literacy into the curricula of academic institutions.

- Information literacy instruction in higher education can take a variety of forms: stand-alone courses or classes, online tutorials, workbooks, course-related instruction, or course-integrated instruction.
- State-wide university systems and individual colleges and universities are undertaking strategic planning to determine information competencies, to incorporate instruction in information competence throughout the curriculum and to add information competence as a graduation requirement for students.
- Academic library programs are preparing faculty to facilitate their students' mastery of information literacy skills so that the faculty can in turn provide information literacy learning experiences for the students enrolled in their classes.

Technology and Information Literacy

Information Technology is the great enabler. It provides, for those who have access to it, an extension of their powers of perception, comprehension, analysis, thought, concentration, and articulation through a range of activities that include: writing, visual images, mathematics, music, physical movement, sensing the environment, simulation, and communication (Carpenter, 1989, p. 2).

Technology, in all of its various forms, offers users the tools to access, manipulate, transform, evaluate, use, and present information.

- Technology in schools includes computers, televisions, video cameras, video editing equipment, and TV studios.
- Two approaches to technology in K–12 schools are technology as the *object* of instruction approach, and technology as the *tool* of instruction approach.
- Schools are starting to incorporate technology skills instruction in the context of information literacy skills.
- Technology is changing the way higher education institutions are offering instruction.
- The use of the Internet is being taught the contexts of subject area curricula and the overall information literacy process.
- There is some empirical indication that students who use technology as a tool may become better at managing information, communicating, and presenting ideas.

Conclusion

"In this next century, an "educated" graduate will no longer be defined as one who has absorbed a certain body of factual information, but as one who knows how to find, evaluate, and apply needed information" (Breivik, 1998, p.2). Our ability to be information literate depends on our willingness to be lifelong learners as we are challenged to master new technologies that will forever alter the landscape of information.

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Digest

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Information Literacy: Search Strategies, Tools & Resources

by Zorana Ercegovac and Erika Yamasaki

In the current Information Age, the speed at which we work makes us increasingly dependent on high-quality, accurate information. However, information is becoming more voluminous, fragmented into different formats and media, and duplicated in multiple physical locations. In order to access and use these myriad sources effectively, people must be information literate.

As defined by the American Library Association (ALA) in its mission statement for the global information society, 21st century information literacy is the ability to seek and effectively utilize information resources, including knowledge of how to use technologies and the forms in which information is stored (ALA, 1998). This means that asking a good question, as well as accessing, locating, evaluating, and using information, is critical not only in scholarly activities but in making daily decisions.

Having accurate, up-to-date information determines the difference between the rich and the poor in the Information Age. Community colleges can make a vital contribution toward closing this gap by equipping their students with the ability to access, retrieve, and utilize information.

As we strive to understand information literacy issues in a more holistic manner, the Information Literacy: Search Strategies, Tools & Resources (ST&R) Program developed by Ercegovac (1997a) can provide invaluable guidance in a variety of information literacy environments.

This Digest briefly describes challenges facing information literacy development as well as ST&R and its usefulness to community college faculty and students.

Information Technology

The growth of computer networks and information services has already enabled learners at all levels to share resources, collaborate with one another, and publish their results electronically. To use information sources effectively, we need both technology infrastructure (TI) and information literacy infrastructure (ILI) in place. While TI has been well-funded and developed, ILI is poorly applied in teaching and learning, and requires educators' attention.

Information technology is a tool for writing papers, communicating with colleagues worldwide, and exchanging experiments, ideas, and programs internationally. As community colleges are considering distance learning and adding new technologies to their curriculum, ensuring students' information literacy becomes vital. However, this shift may challenge existing campus dynamics.

A Current Challenge

The proliferation of information sources and educational technology have created a dysfunctional relationship between community college faculty and librarians that is based on an outdated teaching/learning paradigm (Tompkins, 1996). Traditionally, teaching has been the purview of faculty while librarians were viewed as merely custodians of printed information resources. In the current Information Age however, librarians have become the primary instructors in community colleges to teach research methods and critical thinking skills as applied to information access (Academic Senate for California Community Colleges, 1996). As such, there is increasing support for community college librarians to be seen as key instructional team members and as partners with faculty (Tompkins, 1996; McHenry, Stewart & Wu, 1992).

Especially as libraries are transformed into integrated library/high technology centers, resource-based learning (i.e., drawing on resources beyond textbooks and lectures) and information literacy can be adopted as goals across academic disciplines. At Central Seattle Community College, for example, faculty linked an English composition course with one in library science to teach students how to use information literacy skills in the context of cultural pluralism (McHenry, Stewart & Wu, 1992). By working together, librarians and faculty were able to teach content as well as the valuable skill of navigating through complex data bases and information resources.

While faculty may know how to teach English composition or other standard courses, they may not be as comfortable teaching information literacy. Fortunately, an abundance of resources has emerged from sources including the Department of Education (1996), the ERIC Clearinghouse on Information and Technology (Eisenberg & Johnson, 1996) and independent authors (for example see Mendrinos, 1994). These publications state information literacy goals, review literacy tools, provide case studies, and present adaptable models of information literacy curricula.

The ST&R Program

One recently developed aid is the Information Literacy: Search Strategies, Tools & Resources (ST&R) Program that can be tailored to the local needs of colleges. It is comprised of three integrated instructional components: the ST&R book, a PowerPoint presentation for classroom use, and an HTML version of the book for installation on institutional servers.

Implemented at the intersection of learners and Web-ready information resources, ST&R can initiate students to the world of information literacy. It is a comprehensive and flexible tool that has been developed to enable students

to become self-sustained seekers and users of information sources and digital libraries. This can be especially useful in the community colleges where many students are from disadvantaged or lower socio-economic backgrounds and previously may not have had access to such sources.

The program has been designed for anyone interested in the critical and effective use of all types of information sources regardless of their format (e.g., books, journal articles, manuscripts, log diaries, visual elements, and other artifacts) and medium (e.g., printed, electronic, and networked digital libraries). ST&R takes a user-centered perspective and focuses on the intellectual aspects of locating, evaluating, interpreting, and communicating information sources rather than on the technical aspects of these activities.

Furthermore, ST&R is comprehensive because it contains references to a variety of sources and digital repositories, introduces effective search strategies and tools for the use of these sources, and covers critical evaluation of these sources. In this one-stop "literacy mall," ST&R also offers exercises, a glossary of introduced terms and concepts, and Internet addresses of numerous sources available on the Web. In particular, the electronic version of ST&R allows students to connect automatically with Internet addresses and explore various search engines in an orderly and guided manner. Instructors are equipped with the "ST&R Show," based on the Microsoft PowerPoint 97 presentation program, that features links to selected Internet digital libraries and resources.

The ST&R Program also is flexible because its content is divided into a series of nine interrelated yet independent chapters. Students can expand each chapter by doing more exercises and searches, tracking new Web addresses, updating the existing ones, and developing their own portfolio of annotated information sources.

This program is the first attempt to translate research from the fields of information seeking, information retrieval, and educational psychology into a practical information literacy program. It can be utilized in a variety of academic settings including libraries, media centers, and classrooms. In addition, different academic departments may wish to incorporate individual parts of ST&R into their curricula to fit their own information literacy mission, students, and collections. Also, the program is scalable to the different academic abilities of community college students.

In summary, ST&R represents an accumulation of over 10 years of teaching, in-class testing with undergraduates at the University of California, Los Angeles, and feedback from real learners and users. It is based on understanding the user, active learning, a conceptual approach in teaching, and modularity (Ercegovac, 1995; 1997b). While the program is a very practical information literacy tool, it also is based on solid research and conceptual foundations. For example, it recognizes the importance of the information life cycle (e.g., information need, search and interpretation, evaluation, and use) as well as the user (National Academy of Sciences, 1998).

Conclusion

In this Information Age, we browse and query the world's repositories without ever having to leave our workplaces and communities. Thus, it is not surprising that the traditional sense of a library as a confined space with local dimensions has introduced ambiguities to the way people interpret library collections and uses. As a result, the value of a library as a store has been questioned, and the library's role as a service is largely misunderstood.

Another concern is the ease with which untrained users can directly search sources, resulting in their continued difficulty with utilizing information retrieval systems. Furthermore, definitions of access and information are not agreed upon universally.

All these changes have created the need to rethink information literacy and to educate students in the lifelong quest for knowledge. ST&R helps in this regard.

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Studying with the Computer

by Gary R. Cobine

In an age of mass advertising, when everything "new" is supposedly "improved," too, instructors should beware of claims of education made "new and improved." Whenever adopting new technology, they should consider their old purpose: promoting study. An English instructor, for instance, can justify computer use only insofar as students can use it for purposeful reading and writing.

Adding to Study and Discussion

For millennia, independent study has led students to knowledge. From Pythagoras to Picasso, from Confucius to Shakespeare, from the self-made scholar King Alfred to Martin Luther King, independent thinkers have searched for truths. Since the Renaissance, scholars have stressed "research." Now the computer extends "research-oriented" activity (Cotton, 1996). On their own modest searches, students now can access online libraries, museums, databases, and indices for primary sources of histories, biographies, records, reports, statistics, quotations (Gordin et al, 1995). As researchers, they become analysts, not consumers, of information. They analyze information relevant to their studies and pursuits--their "real lives" (Cotton, 1996). Thus they discover not just information, but knowledge.

Through independent study, students become doers, as well as thinkers. At some colleges, students now use computer networks to arrange their own education. For instance, in Vanderbilt University's "asynchronous learning" program, students access lectures and assignments across a campus-computer network (Wyatt, 1997). In these online classes, students meet only for final exams. Yet, by course's end, online students tend to learn more than students in regular classes (Shoemake, 1996).

During an impasse in independent study, collaboration often clears the way to knowledge. Then thinkers want some response or counsel from others. The American philosopher Emerson, for example, would clarify his thought through correspondence with Thoreau and Hawthorne. Electronic mail, or e-mail, now extends letter writing. Through school computer networks, students now can correspond directly and instantaneously with distant students, as single partners, or as entire classrooms (Cotton, 1996). They also can apprentice themselves, long distance, to on-the-job professionals, and thereby learn the practices of an occupation (Gordin et al, 1995). Meanwhile, in reading and writing these electronic messages, they rehearse 21st-century communications (Cotton, 1996).

Through collaborative study, students also learn cooperative attitudes. At Vanderbilt University, the online students, sending e-mail to one another, form small study-groups (Wyatt, 1997). At Indiana University, for his philosophy class, President Myles Brand supplements study and discussion through a "listserv," or e-mail network limited to his students--he does so not only to make assignments and answer queries, but also to urge classmates to communicate outside class (Gress, 1997).

During either independent or collaborative study, interdisciplinary work broadens perspectives. Like the versatile Renaissance artists and scholars, including Leonardo DaVinci, creative thinkers stretch their studies across many subjects. Traditionally in education, interdisciplinary courses combining the humanities and sciences, arts and mathematics, sciences and physical education, arts and physical education, and other combinations, seem feasible. Even in a single-subject course, students now can extend their research across various Internet "domains," or server-computers allowing access to formerly inaccessible information from commercial businesses (.com), government services (.gov), nonprofit organizations (.org), educational institutions (.edu), artistic and cultural groups (.arts). Ultimately, students would benefit most from a domain providing interdisciplinary, instructional services (Gordin et al, 1995).

Supplementing Study in English

In English, the computer can definitely add to mass media studies. Not only can students now read electronic newspapers and magazines, they can also respond: they can activate "links," or electronic transfers, to related reports and related sites on the Internet, and take news quizzes with immediate answers. CNN Interactive, for example, offers a curious mixture of print journalism, TV pictures, and computer interaction. Meanwhile, students pursue old-fashioned independent, collaborative, and interdisciplinary study, writing about political, social, and economic events, and practicing "informed conversation" on issues (Cotton, 1996).

Gary R. Cobine is a lecturer in the Humanities and Fine Arts Division at Indiana University-East.

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Used selectively, the computer also can strengthen writing itself. In expository writing, in supporting their ideas, students need reference sources for evidence; now they can extend their research through online indices and libraries. At reputable Internet sites, they also can peruse "information articles," online documents prepared for an Internet audience (Sellers, 1993). Meanwhile, they maintain the practice of expository writing: explaining results of studies or experiments in a research paper, an issue in a position paper, a problem and its solutions in a proposal, trends in a speculative essay, cultural or social events in a commentary, products or performances in a critique. Likewise, in creative writing, in attempting to express their thoughts, intuitions, and emotions through literary techniques, students can extend their collaborations: through e-mail, they now can correspond with authors and illustrators, as well as experts on themes important to their writing. Also, in revising an already well-established piece of writing, whether expository or creative, students now can use a computer's word processor to make instantaneous on-screen changes--to insert, delete, reorder. Plus, as they revise, the instructor now can respond more like an editor than a critic, since the large computer screen makes the writing mutually legible (Simic, 1996).

Although computer possibilities for grammar study remain experimental, futuristic computer tutorials might prove purposeful (McCarthy, 1994). Using computer functions such as Edit and Tools, students could conceivably experiment with phrase and sentence structure, to practice rhetorical grammar. Computer tutorials could offer them grammatical choices and then give immediate feedback on the rhetorical effects--on order, cohesion, transition, pause, stress, focus, rhythm. In this way, students would become aware of their "intuitive grammatical expertise" (Kolln, 1996). Roberts and Boggase (1992) conducted a study with findings that corroborate this informed opinion.

Integrating Technology Deliberately

Instructors can integrate the computer into a course gradually. A class of students with little computer experience can practice first through course-related assignments. Acquiring basic computer skills, they later can carry out important coursework. In this way, the students not only master computer skills, but also prepare for advanced study. Before independent study, they could attempt mini-research assignments on the school computer network, searching subject-related indices for reference sources. Consequently, they could use the computer later during a research project. Similarly, before interdisciplinary study, students could do mini-research assignments and later graduate to a multiple-subject project. For example, a student might conduct science experiments and then interpret the results in a formal paper for English composition class; other students might incorporate their academic major and minor subjects into one project. Before collaborative study, students could send e-mail inquiries, corresponding with other students and with authorities on the subject. Later, they could attempt a collaborative project with one of the correspondents.

English instructors could prepare students similarly for course projects. In media studies, students could learn to browse an electronic newspaper, taking advantage of the electronic links to related reports and Internet sites to write broad news summaries. Then they could augment the summaries by writing fully documented commentaries for a media-analysis project. In writing courses, the students could learn to use a word processor, beginning with simple exercises in editing and proofreading, and proceeding to an assignment in typing, saving, filing, and printing a previously written paper. Eventually, the students could revise their writing-in-progress on the word processor. To top off the study, they could make computer printouts of a perfected paper--for a target audience--as a publication project.

English instructors must know the right time when the computer helps, when the students benefit from searching the Internet, or word processing their writing, or trying a computer tutorial. Used judiciously, the computer does offer bonuses for research, collaboration, and experimentation. The Internet, in particular, may someday offer an exclusive educational-service domain--perhaps .std, for study. Used for the age-old pursuit of knowledge, the computer will help send students on their academic and vocational ways.

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University of California at Los Angeles
3051 Moore Hall
Los Angeles, CA 90095-1521
(310) 825-3931

Digest

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Successfully Integrating Technology

Keeping pace with new technologies and integrating them into existing institutional structures is only one of many pressing problems facing community college leaders today. However, recent attempts to enhance learner-centered education through technology have resulted in successful holistic approaches. This Digest, redacted from a recent *New Directions for Community Colleges* issue edited by Kamala Anandam, documents the experiences of faculty, administrators, and staff at several colleges as they addressed a broad range of instructional technology issues.

From the Ground Up

Stephen C. Ehrmann (1998) views technology in higher education as being akin to a four-level tower in which each level is progressively more sophisticated than the one below it. The basement contains traditional technologies (textbooks, audiovisual materials) and the infrastructure for their use (libraries, labs, etc.). These basic elements support the four traditional pedagogies on the first floor *directed instruction* (lecture hall and textbooks), *learning by doing* (laboratories, typewriters, libraries), *real-time conversations* (seminars, office hours), and *time-delayed exchange* (homework). The second floor houses enhancements to these practices that require students to use instructional technologies. Finally, the third floor represents large-scale structures supporting new educational concepts, campus-based education and distributed learning.

Moran and Payne (1998) suggest that successful integration of technology into community colleges hinges on the willingness of faculty to move beyond the basement and first-floor technologies with which they are most familiar and into the upper levels that incorporate information technology. The writers recount Kirkwood Community College's (Cedar Rapids, Iowa) successful Instructional Technology Teaching/Learning Initiative in which faculty led the integration of technology into the campus.

With improving student learning as their primary goal, faculty members were carefully trained in the use of a variety of hardware and software programs. The initiative resulted in greater faculty integration of technology into their planning, teaching, and student evaluation routines. Recent activities include formation of an institute for studying the impact of technology on literature and development of a software program that allows downloading of student grades from instructor records into the student record system.

Additionally, faculty from the developmental education department mentor faculty in other departments in designing technology-based and technology-enhanced curricula. Results of these initiatives include a sequence of courses designed for specific vocational and college preparatory areas. Moran and Payne (1998) make it clear that when faculty assume a leadership role in integrating instructional technology, rather than administrators dictating that implementation, innovations that enhance student learning are the result.

Planning for Technology

Community colleges now operate in an age of diminishing budgets and resources as well as demands to expand their missions. Ehrmann (1998) identifies five policy issues with which all community college leaders need to be concerned when investing in instructional technology. Taken together, these concerns require decision makers to examine the underlying values that will affect their choices for where to invest scarce institutional dollars in order to yield the best return.

Any successful attempt at integrating technology into existing institutional structures must begin with an evaluation of the current status of the college and a plan for improvement. Gellman-Danley and Teague (1998) offer a 10-step guide to integrating technology throughout the community college. Based on their own experience at Monroe Community College (New York) that saw technological consolidation throughout both the academic and administrative sectors, the authors articulate the steps required to form an institution able to serve faculty, staff, and students more effectively and efficiently.

The cost of integrating instructional technology is another common concern. Bleed (1998) argues persuasively for new investment strategies that concentrate technology dollars in the top 10 to 25 courses that enroll upwards of 25% of students at most community colleges. Bleed suggests concentrating technology investments in the introductory English, math, psychology, accounting, biology, fitness, and speech courses. He argues that improving access to these classes through technology will increase enrollments and potentially reduce operating costs.

Planning for technological innovation can be especially difficult for community college administrators during uncertain times, but it also provides them with opportunities for reinventing the institution. Neff (1998) details the creation of a "parallel college" at Sinclair Community College (Ohio) that seeks to, first, correct the mismatch between curriculum and

modern technology and second, update current administrative operations systems with modern and efficient ones. Both objectives are part of that institution's efforts to produce more student-centered learning on campus.

Case Study of Success

When efforts to integrate technology into learner-centered teaching are successful, the results can be startling, as was the case with Project SYNERGY at Miami-Dade Community College in Florida. The project resulted in the creation and implementation of software designed to test, evaluate, and teach underprepared students at their own pace.

An important initial phase of the project was the creation of a software "platform" that integrated a collection of faculty evaluated and selected educational software programs. These existing programs in turn were integrated into a collection of diagnostic components. This new software platform was dubbed the Project SYNERGY Integrator (PSI). Using either LAN (local area network) or WAN (wide area network) computer technology, the PSI was designed to allow instructors to easily and effectively evaluate and track the competence of underprepared students in a wide range of basic skills.

The evaluation and selection of software was followed by the creation of questions by faculty that, when answered by students, would measure individual students' levels of preparedness in reading, writing, math, ESL, study skills, critical thinking, or other targeted areas. The questions, contained in a database called BANQUE, were integrated into the PSI, thereby allowing instructors to easily produce either topical or diagnostic tests custom designed for individual students. When faculty select questions for a particular test, specific learning objectives can be matched with the content of the topic covered.

Additional features incorporated into the PSI include e-mail, generation of reports for time-on-task, and access to software by individual students. These features allow the student and instructor to interact at the convenience of both parties and eliminate tedious grading and tracking functions. The system even provides students with computer games as rewards for effort and achievement.

New Challenges

Successes such as those experienced by Project SYNERGY can lead to additional, unexpected challenges. For instance, faculty typically are not compensated for the extra work they perform to enhance their instruction with technological innovations. Certainly they are entitled to fair compensation for these efforts although there are no easy answers (Allison & Scott, 1998). The obligations of both faculty and institutions need to be defined in this new environment.

New competitors for community college students and their dollars pose another challenge. Doucette (1998) foresees the day when, in search of new markets, conglomerates such as Disney or Microsoft begin to compete for a sizable portion of students now taught by community colleges. He believes the challenge to community colleges will then be to once again discover new ways to "provide learning support services to help students learn, regardless of where they get their information" (p. 85).

Conclusion

No doubt other, unpredicted challenges will continue to arise as integration of technology into community colleges progresses. Efforts to find new and innovative solutions will become a common occurrence among those responsible for making technology decisions at the faculty, administrative, and staff levels. These challenges will force community colleges to revisit their missions, particularly in response to issues of access and service.

References

This Digest is drawn from "Integrating Technology on Campus: Human Sensibilities and Technical Possibilities," *New Directions for Community Colleges*, Number 101, edited by Kamala Anandam, published in Spring, 1998. The cited articles include: "Faculty Compensation and Obligation: The Necessity of a New Approach Triggered by Technology Integration," by Robert D. Allison and David C. Scott; "Project SYNERGY: An Enduring Collaboration for a Common Cause," by Kamala Anandam; "Learner-Centered Strategy for Investments in Technology in Community Colleges," by Ronald D. Bleed; "What Are Community Colleges to Do When Disney and Microsoft Enter the Higher Education and Training Market?" by Don Doucette; "Using Technology to Transform the College," by Stephen C. Ehrmann; "Navigating the Organizational Maze: Reengineering to Advance the Technology Agenda," by Barbara Gellman-Danley and Robert G. Teague; "Humanizing the Integration of Technology," by Terry J. Moran and Michele Payne; and "Technology as a Catalyst for Reinventing an Institution," by Kathryn J. Neff.

Additional Resources

Recently published ERIC Clearinghouse products on related topics include:

Dillon, C. L. and Cintron R. (1998). "Building a Working Policy for Distance Education." *New Directions for Community Colleges*, 25 (3). Published in association with Jossey-Bass, Inc. Publishers.

Distance Education in the Community College. (Fall 1998). *Topical Bibliography*.

Educational Technology in the Community College. (Summer 1998). *Topical Bibliography*.

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To request the *New Directions for Community Colleges* issue, contact Jossey-Bass, Inc. Publishers at (888) 378-2537. All other publications are available free of charge from the ERIC Clearinghouse.

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Using the Internet to Enrich Science Teaching and Learning

David L. Haury & Linda A. Milbourne

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ERIC Clearinghouse for Science, Mathematics, and Environmental Education DIGEST

We are continually seeking new ways to capture the attention of students and create active learning environments where minds are engaged and interests are nurtured. The Internet is a powerful tool for engaging minds: school groups and individual students can collaborate on projects; students can pursue individual interests, taking responsibility for gathering their own information; and everyone can communicate with peers and experts worldwide. For teachers, the Internet is an electronic gateway to learning resources and experiences otherwise unavailable; no matter how specialized an area of interest may be, there is someone on the Internet who shares the interest and has identified or developed useful resources. It is through interaction with other people, ideas, and new experiences that we all construct new knowledge, and the power of the Internet is in its capacity to enable interactions with people over great distances and link people with distant informational resources. In essence, the Internet provides a way to break out of the school walls and engage students with people and resources scattered around the world.

The full potential of the Internet as a tool for learning is still being explored, but one of the main limitations at the moment may be our imaginations. We are still gaining the experiences that will enable us to envision the possibilities. Here we offer some examples of ways in which the Internet can be used as a tool for teaching and learning science.

Facilitating Productive Interactions

Because individuals can interact inexpensively without needing to coordinate the times or places of their interaction, virtual conversations are possible between individuals with very different schedules. Using electronic mail, a teacher can interact individually with students or their parents, send informational messages over a Listserv to a whole group, or provide assistance and access to electronic resources through a personal website. With these Internet communication tools, a teacher can actually provide increased individual attention while spending less time in meetings, extended conversations, or talking on the telephone.

The Internet also makes it possible for a class or group to interact with other school groups at great distances. For instance, one school coordinated an experiment with 11 other class groups from as far away as Australia and Japan (Lidbeck, 1996). The groups all measured the Earth's magnetic field and compared their results. Without the Internet, costs and logistical problems would have made such an experience impossible.

Finally, science related discussion groups on the World Wide Web enable students and teachers to interact with others around the world that share interests. Maintaining interest is key in science, so one way to encourage the one or two students in a particular class who have unique interests is to foster interactions with others who share the interest.

Finding New Sources of Information

Through the Internet, students, parents, and teachers with limited resources can access an extensive array of informational sources.

- *Virtual libraries*
  - Kids Connect @ the Library (http://www.ala.org/parentspage/)
  - The Library of Congress (http://www.loc.gov/)
  - Library Resources on the Internet (http://www.library.nwu.edu/resources/library/)
- *Reference sources*
  - Science Reference Shelf (http://www-hpcc.astro.washington.edu/scied/sciref.html)
  - Research-It! (http://www.itools.com/research-it/research-it.html)
  - Martindale's The Reference Desk (http://www-sci.lib.uci.edu/HSG/Ref.html)
  - Science FactFinder (http://www.accurate-eye.com.au/earth.htm)
- *Digitized books*
  - The On-Line Books Page: Science (http://www-cgi.cs.cmu.edu/cgi-bin/book/subjectstart?Q)
- *Search engines and directories*
  - Awesome Library (http://www.neat-schoolhouse.org/awesome.html)
  - Dogpile (http://www.dogpile.com)
  - The Virtual Library: Science (http://www.vlib.org/Science.html)

For more ideas, see *The parent's guide to the information superhighway*, online at http://www.childrenspartnership.org/pub/pbpg.html.

Seeking Assistance

There are times when each of us needs help finding specific information, learning new concepts, completing assignments, or making plans. On the Web, personal assistance is only a click away.

- *Ask the experts.* This is a sampling of question answering services available.
  - Scientific American: Ask the Experts (http://www.sciam.com/askexpert/index.html)
  - Ask Jeeves for Kids (http://www.ajkids.com/)
  - The Mad Scientist Network (http://www.madsci.org/)
- *Homework Help & Tutoring*
  - The CSMEE Homework Companion (http://www.ericse.org/homework.html)
  - The Biology Project (http://www.biology.arizona.edu/)
- *Career information.* Access to career information and first hand accounts from people who have succeeded can help students know how to prepare. Here are samples of available resources.
  - ScienceWeb: Career Descriptions (http://scienceweb.dao.nrc.ca/can/careers/describe.html)
  - People in Mathematics and the Sciences (http://coolschool.edu/gotob.htm)

Staying Informed

One way to keep students interested in science is to help them notice the science of daily life. Here are websites that relate science to the news, daily events, issues, television and more.

- *News.* Science in and "behind" the news.
  - The Why Files (http://whyfiles.news.wisc.edu/)
  - ScienceNOW (http://www.sciencenow.org/)
  - Science in the Headlines (http://www.nas.edu/headlines/)
  - Earth Alert (http://www.discovery.com/news/earthalert/earthalert.html)
- *Magazines.*
  - Science News Online (http://www.sciencenews.org/)
  - *Discover* (http://www.discover.com/)
  - *Scientific American Explorations* (http://www.explorations.org/)
  - *Sky & Telescope* (http://www.skypub.com/skytel/skytel.shtml)
- *Television and Radio.* These web pages complement television and radio programming and can help to enrich the viewing experience.
  - Nova Online (http://www.pbs.org/wgbh/nova/search.html)
  - Earth & Sky (http://www.earthsky.com)
  - Bill Nye the Science Guy (http://nyelabs.kcts.org/flash_go.html)
  - Scientific American Frontiers (http://www.pbs.org/saf/)
  - A Science Odyssey (http://www.pbs.org/wgbh/aso/)
  - Zoom (http://www.pbs.org/wgbh/zoom)
- *Issues and Events of the Day.* These sites focus on current issues and events relevant to science and social perspectives.

EPA Global Warming Site (http://earth1.epa.gov/globalwarming/home.html)
Endangered Species (http://eelink.net/EndSpp/)
Interactive Weather (http://iwin.nws.noaa.gov/iwin/graphicsversion/main.html)
FEMA for Kids (http://www.fema.gov/kids/)
Today's Earthquake Activity (http://athena.wednet.edu/curric/land/todayqk.html)

Extending Classroom Instruction.

Self-directed learning outside the classroom is nurtured at websites offering activities, information, and media to promote interest and understanding.

- *Online Learning Centers.* These interactive sites provide access to unique resources to capture the attention of students.

  The Learning Studio @ The Exploratorium (http://www.exploratorium.edu/learning_studio/)
  Thinking Fountain (http://www.sci.mus.mn.us/sln/tf/nav/tfatoz.html)
  StarChild (http://starchild.gsfc.nasa.gov/docs/StarChild/StarChild.html)
  Explorer's Club (http://www.epa.gov/kids/)
  Exploring the Environment (http://www.cotf.edu/ete/main.html)

- *Activities.* Many websites offer simple activities that can enrich school instruction, home instruction, or homework assignments.

  Whelmers (http://www.mcrel.org/whelmers/)

- *Family learning experiences.* These websites offer resources and activities that can guide the whole family in creating a learning environment.

  Too Cool For Grownups (http://www.tcfg.com/)
  Bird Conservation Initiatives (http://www.audubon.org/bird/)
  Helping Your Child Learn Science (http://www.ed.gov/pubs/parents/Science/index.html)
  The Global Schoolhouse (http://www.gsn.org/)
  The Nation's K-12 Homepage (http://www.copernicus-psd.com/)

- *Online Courses.* Online courses can be used to supplement classroom learning.

  An Astronomy Course Using the Internet (http://www.cnde.iastate.edu/staff/jtroeger/astronomy.html)

Doing Research

The websites listed here represent the opportunities available for engaging students in analyzing real-world data, examining research findings, and exploring active research efforts. For more ideas, see *Web Activities Using Scientific Data*, online at http://www.sel.noaa.gov/Activities/.

- *Data Sources*

  NOAA Server (http://www.esdim.noaa.gov/NOAAServer/)
  National Geophysical Data Center (http://www.ngdc.noaa.gov/)
  National Oceanographic Data Center (http://www.nodc.noaa.gov/)
  Water Resources of the United States (http://water.usgs.gov/)

- *Technical information*

  The Tree of Life (http://phylogeny.arizona.edu/tree/phylogeny.html)
  Internet Resource Guide for Zoology (http://www.york.biosis.org/zrdocs/zoolinfo/zoolinfo.htm)
  EPA's Surf Your Watershed (http://www.epa.gov/surf/)
  BioOnline (http://bio.com/resedu/educate.html)

- *Research centers and facilities*

  Space Scientists Online (http://quest.arc.nasa.gov/sso/index.html)
  EPA Acid Rain Program (http://www.epa.gov/docs/acidrain/ardhome.html)

Getting Involved in Projects

Though we all learn best by "doing," a major benefit of the Internet is the opportunity for individual students, families, and classroom groups to actively participate in a rich variety of projects that involve collecting and sharing data.

- *Collaborative projects*

  GLOBE Program (http://www.globe.gov/)
  Journey North (http://www.learner.org/jnorth/)
  FrogWatch USA (http://www.mp2-pwrc.usgs.gov/FrogWatch/)
  Cornell Laboratory of Ornithology (http://birds.cornell.edu/)
  Global Water Sampling Project (http://k12science.stevens-tech.edu/curriculum/waterproj/index.html)
  Houghton Mifflin Project Center (http://www.eduplace.com/projects/index.html)

- *Science fairs and competitions*

  The CSMEE Science Fair Companion (http://www.ericse.org/scifair.html)
  Odyssey of the Mind (http://www.odyssey.org/odyssey/)

- *Project ideas*

  Science Project Guidelines (http://atlas.ksc.nasa.gov/education/general/scifair.html)
  Experimental Science Projects (http://www.isd77.k12.mn.us/resources/cf/SciProjIntro.html)
  Amateur Scientist (http://earth.thesphere.com/SAS/SciAm/SciAm.html)

Enrich Personal Experience

With the strong emphasis on active learning in science, the range of experiences that a student brings to the classroom will have an effect on the learning that occurs. Here is a sampling of resources that can increase individual awareness of nature and the world beyond one's direct experiences.

- *Virtual field trips*

  Virtual Tours (http://www.dreamscape.com/frankvad/museums.html)
  The Jason Project (http://www.jasonproject.org/)
  Galapagos Quest (http://quest.classroom.com/galapagos1999/splash.asp)

- *Visits to zoos, museums, and centers*

  American Museum of Natural History (http://www.amnh.org/)
  Smithsonian Museums (http://www.si.edu/organiza/)
  Science Adventures (http://www.scienceadventures.org/)
  Zoo Links (http://www.ala-net.com/zoos.html)

- *Remote places*

  The Virtual Cave (http://www.goodearth.com/virtcave.html)
  The Nine Planets (http://www.seds.org/billa/tnp/)
  Hawaiian Volcano Observatory (http://hvo.wr.usgs.gov/)

- *Remote cameras & robots*

  Animal Cams (http://biology.miningco.com/msub2.htm)
  Bradford Robotic Telescope (http://www.telescope.org/rti/)
  Telerobot Controller (http://192.204.241.187/cgi-win/telerobt.exe)

- *Expeditions*

  Xpeditions (http://www.nationalgeographic.com/xpeditions/main.html)
  Global Online Adventure Learning Site (http://www.goals.com/)

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Additional Resources

Reasons for the Internet in K-12 Schools (http://www-personal.si.umich.edu/~kenh/k12.html)
Tales from the electronic frontier (http://www.wested.org/tales/)
Science and Math Initiatives (http://www.learner.org/sami/)
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DIGEST

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Using the Web to Access Online Education Periodicals

by Joseph Slowinski

Over the last five years, information technology has revolutionized the way in which scholars can access information and data resources. Education practitioners and scholars are no different. This Digest is designed to aid those wishing to learn more about how to use information technology to access electronic resources. Readers should be aware that the resources and their Internet addresses below are subject to change.

Since the World Wide Web's inception in 1989, more information is available to more people today than at any other time in our history. Such an information-rich environment provides a wealth of opportunities for scholars and practitioners of education to access a variety of electronic resources. Web resources include reports, papers, policy positions, etc., many of which are available full-text.

How to Find Journals Online

Journal and magazine publishers are beginning to offer services for subscribers as well as those who visit their website. Services include full-text versions of articles published in the past as well as upcoming tables of contents.

Try visiting the official Web site of magazines and journals. The next time you look at a hard copy of a periodical, examine the publisher's information. Often the journal URL will be printed on the inside front or back cover. If you are unable to locate a URL, make note of the journal publisher. Use a search engine, like Infoseek or Galaxy, to search for the name of the journal. After searching for the URL, visit its home page to determine the potential of full-text journal articles. Another wise starting point is the Education Virtual Library located at ***http://www.csu.edu.au/education/library.html*** or the Center for Instructional Materials and Computing Education Journal Annotations available at ***http://cimc.soemadison.wisc.edu/resources/anno_AB.html.*** These resources will aid you in locating journals and magazines of interest, as well as other potentially information rich Web sites.

Periodicals

Triangle Journals publishes a variety of educational journals including *International Studies in the Sociology of Education*, *Curriculum Studies* and *Oxford Studies in Comparative Education*. Triangle is currently releasing free online portable document format access to many journal volumes published after 1997 (as discussed above). To see the complete line of journals and to access the free online publications, visit Triangle Journals at ***http://www.triangle.co.uk/index.htm***. A sample of other educational journals available online includes the following:

- *American School Board Journal* (*http://www.asbj.com/*)
- *Journal of Chemical Education* (*http://jchemed.chem.wisc.edu/index.html*)
- *Journal of Economic Education* (*http://www.indiana.edu/~econed/*)
- *World Education Review* (*http://www.wes.org/wenrarch/wenarch.htm*)
- *Harvard Education Review* (*http://gseweb.harvard.edu/~hepg/online.html*)
- *International Journal of Science Education* (*http://www.tandf.co.uk/jnls/sed.htm*)
- *International Journal of Lifelong Education* (*http://www.tandf.co.uk/jnls/led.htm*)

Magazines

Similar to scholarly publications, many magazines are becoming available full-text online. One prime example of a magazine supporting online technology is the *Atlantic Monthly* (*http://www.theatlantic.com*) which offers an online archive of many topic-related articles. For example, you can find online articles by Booker T. Washington and W.E.B. Dubois. Look through the *Atlantic Monthly* education archive (*http://www.theatlantic.com/election/connection/educatio/educatio.htm*) as well as other related topics such as the economy, politics, race, or gender. In addition to these magazines, the following journals also maintain archives and current materials available for free online:

- *Phi Delta Kappan* (*http://www.pdkintl.org/kappan/kappan.htm*)
- *The American Prospect* (*http://epn.org/prospect.html*)
- *Policy Review* (*http://www.policyreview.com/backiss.html*)
- *Rethinking Schools* (*http://www.rethinkingschools.org/*)
- *NCTM Publications* (*http://www.nctm.org/publications/*)
- *Technical Horizons in Education* (*http://www.thejournal.com/*)
- *Educational Leadership* (*http://www.ascd.org/pubs/el/elintro.html*)
- *Education Week* (*http://www.edweek.org/*)
- *Green Teacher* (*http://www.web.ca/~greentea/*)
- *Creative Classroom* (*http://www.creativeclassroom.org/*)
- *Home Education* (*http://www.home-ed-magazine.com/wlcm_HEM.html*)

Online Journals

Many journals have emerged on the World Wide Web. Normally these are comprised of two types: web-only versions and electronic publishing projects. Web-only journals comprise a rapidly growing sector of the World Wide Web. One such example is the Electronic Policy Analysis Archives located at *http://epaa.asu.edu*. EPAA has published original scholarly articles since 1993 and has been accessed more than 250,000 times. It is an excellent source about issues in education in the United States, and has grown recently to include internationally-related educational issues.

In addition, the following is a sampling of online-only journals:

- *International Education - Electronic Journal (http://www.canberra.edu.au/uc/educ/crie/ieej_home.html)*
- *Kairos: A Journal For Teachers of Writing in Webbed Environments (http://129.118.38.138/kairos/default.htm)*
- *National Clearinghouse for Bilingual Education (http://www.ncbe.gwu.edu/)*
- *Current Issues in Comparative Education (http://www.tc.columbia.edu/~academic/ice/)*
- *Electronic Learning (http://scholastic.com/EL/)*
- *College Quarterly: A Journal of Professional Development for College Educators (http://www.collegequarterly.org/)*

Another type of online-only journal is the *Electronic Policy Network* (EPN) available at *http://epn.org*. While the EPAA publishes original articles, the EPN searches reform and policy institute Web sites for online material. EPN maintains sections on economics and politics, education, media, health, and civic participation. In addition, EPN provides links and information to a variety of scholarly Web sites, publishers, and online papers. EPN education, available at *http://epn.org/idea/education.html*, provides a bimonthly update of critical issues in American education; it is an excellent source for educational policy scholars and students. EPN also maintains an archive on educational issues.

Some online journals are supported through an electronic publishing program designed to offer online versions of traditional journals. Many require subscriptions to access materials. One example of an electronic publishing project is MUSE housed at Johns Hopkins University. MUSE (*http://muse.jhu.edu/muse.html*) has full-text access to more than 30 journals, including the *Journal of Higher Education* and the *Journal of Democracy*. Users can search the complete collection with title or keyword searches.

Another excellent source for a variety of full-text journals is JSTOR (*http://www.jstor.org*). JSTOR has journals from economics, sociology, education, anthropology, Asian studies, political science, etc. JSTOR allows a user to search its entire collection for key education words. Check the availability of JSTOR and MUSE at your local campus library.

Many other online sites are supported by higher education institutions. In addition, CARFAX offers online access to 37 various journal publications. To learn more about CARFAX and their online services, visit *http://www.carfax.co.uk/subjonli.htm*. CatchWord Ltd. also offers paid access through RealPage to more than 50 international education journals at *http://cherubino.catchword.com/about.htm*. RealPage works similarly to Adobe Acrobat Reader, allowing the user to download the contents of journals for viewing and printing at home, school, or in the office.

Electronic Notification of Journal Contents by E-mail

Many journal publishers are beginning to provide an electronic service alerting readers of journal updates and upcoming tables of contents. One example of this type of service is offered by Carfax. Carfax, headquartered in the United Kingdom, publishes hundreds of scholarly journals. Scholarly Articles Research Alerting (SARA) service allows a user to subscribe to several clusters of journals within certain topic areas. For example, within education Carfax publishes journals within the following areas: Assessment, Comparative Education, Drama and English, Educational Policy, Education Research, Further Education, Higher Education, Moral and Religious Education, Multicultural Education, Sociology of Education, Special Needs, and Teacher Education. Within each of these journal areas, Carfax publishes several journals, which are referred to as a cluster. When you visit the official Web site of a journal or magazine, look for this emerging service.

To subscribe to SARA, visit the Carfax Web site at ***http://www.carfax.co.uk/s-sarali.htm*** and determine the content area and particular clusters that match your interests. For example, if you want to subscribe to the multicultural education cluster, send a message to SARA@Carfax. In the body of the message, type the following message: SUBSCRIBE MULTICULTURAL-EDUCATION-C

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This Digest was prepared by Joseph Slowinski <joeslow@indiana.edu>, Associate Instructor Indiana University.

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National Clearinghouse for ESL Literacy Education

Using the World Wide Web with Adult ESL Learners

by Kathleen Flannery Silc
Falls Church, VA

Developed for the military and adopted by universities as a medium for research, the Internet – a network that links computers all over the world – is now used widely by businesses, educators, government staff, and individuals for information gathering, entertainment, commerce, and communication. Much has been written about the use of Internet technologies such as e-mail, listservs, bulletin boards, and newsgroups in English as a second language (ESL) and foreign language classroom (LeLoup & Ponterio, 1997; Warschauer, 1996). However, another feature of the Internet, the World Wide Web, is also an excellent source for authentic language learning experiences.

This digest presents reasons for using World Wide Web activities in adult ESL instruction, addresses the issue of preparing learners to use the Web, and suggests activities that use authentic learning experiences to enhance skills.

Skills Developed through the World Wide Web

Websites cover a wide variety of topics and interests including health, entertainment, news, and sports. These sites provide information with which learners can interact in order to build basic language and employability skills.

Language Skills

A number of websites were created especially for English learners and contain exercises in grammar, vocabulary, writing, or reading (e.g., Lingua Center Grammar Safari <http://deil.lang.uiuc.edu/web.pages/grammarsafari.html>; Frizzy University Network (FUN) <http://thecity.sfsu.edu/~funweb/>; Weekly Idiom <http://www.comenius.com/idiom/index.html>; and Grammar Self Study Quizzes for ESL Students <http://www.aitech.ac.jp/~iteslj/quizzes/index.html>). Other ESL sites provide practice in listening (e.g., Randall's ESL Cyber Listening Lab <http://www.esl-lab.com>; and Dave's ESL Cafe <http://www.eslcafe.com/>).

To develop reading skills, learners employ skimming and scanning skills to find the information they need. Hyperlinked menus – where readers click on highlighted words, phrases, or images and move to another section of the page or site – facilitate the use of these skills. Web reading includes both prose literacy (narrative) and document literacy (charts and graphs). Instructors can introduce learners to sites that may be relevant to course content and personal interests. Since most English language websites are written for English speakers, the language may be more appropriate for intermediate and advanced learners. However, if instructors choose websites that include graphics and pre-teach the vocabulary, even learners with limited English can take advantage of the Web resources.

Writing is a natural response to Web reading as learners respond to articles, request further information on topics, register complaints, and provide information about themselves. Websites prompt learners to complete forms, send e-mail messages to political representatives, request information on travel destinations, and write comments for bulletin boards and guest books. Engaging in these authentic tasks make writing meaningful. The large amount of information available on the Web requires learners to synthesize what they have read as they write reports and opinion pieces and make oral presentations. Individuals can also create their own websites as a way to publish texts and projects.

Studies have shown that computers can also facilitate oral communication between learners. Learners want to talk about their research and what they are learning. One study reported that communication occurred among students when they were using computers both individually or in groups (DeVillar & Faltis, 1991). The Web also makes it possible to listen to news broadcasts, historical speeches, and films. These sound files can easily be replayed as needed for comprehension.

Employability Skills

Employability skills are the skills needed to find, get, and keep a job. The SCANS Commission (Secretary of Labor's Commission on Achieving Necessary Skills) names the following skills required for effective workplace performance — three foundational skills which include basic skills (reading, writing, speaking, listening, mathematics), thinking skills (creative thinking, reasoning, decision making, problem solving, representing information, learning how to learn), and personal qualities (individual responsibility, self-esteem, sociability, self-management), and five workplace competencies (use of resources, interpersonal skills, information, systems, and technology) for solid workplace performance. (U.S. Department of Labor, 1991).

Many of these skills are addressed in well designed Web-based lessons. For example, effective use of the Web requires skills in problem solving, as learners need strategies to sort through the flood of information. The analyzing and evaluating of information that learners must do to separate the wheat from the chaff is similar to what employees do at today's workplace as they gather information from remote sources (Dede, 1996). Projects that require learners to use the Web to gather information about specific topics (e.g., health insurance) provide practice in many SCANS workplace competencies. If learners can work in teams on these projects, they will have experience working cooperatively, solving problems as a team, and coming to a consensus. Further, using the Web in the adult ESL classroom gives learners opportunities to "develop technology skills and experiences in contexts that are similar to those in which technology is used outside the classroom" (Ginsburg, 1998, p.42). Learners become familiar with technology as they use the mouse to point and click and navigate from screen to screen. Icons that were once unfamiliar now have meaning that will transfer to a variety of computer applications. As learners type information into online forms, they improve their keyboarding skills.

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Preparing Learners for Searching the World Wide Web

Preparation can turn an overwhelming experience into a manageable one. Learners should be introduced to the use of the mouse, the browser, and the modem or Internet connection. A lesson in how to use icons and a mouse will make learners feel more comfortable as they approach the World Wide Web. If they have used computers before for word processing, they may already be familiar with many computing conventions.

One of the greatest challenges of searching the World Wide Web is finding appropriate information. A lesson on Web searching will give learners more control over the process. This lesson should include brainstorming keywords and concepts, adjusting these terms as needed, using search engines such as Yahoo, HotBot, and Alta Vista. Learners can keep logs to see which keywords yield the best results for particular searches. (See Cowles, 1997, for lesson ideas on Web searching.)

Because Web-based materials are not necessarily accurate or truthful, Web searching can also help learners develop their critical literacy skills. Learners can be taught to consider the source and question the veracity of what they read, a critical lesson in an age when tabloids and even legitimate news outlets print stories that are not completely true. Guidelines and criteria for evaluating the accuracy and quality of the information at a given website can be found at Kathy Shrock's Guide for Educators (http://discoveryschool.com/schrockguide/) and in Cowles (1997).

Finally, learners should be prepared for the possibility that, because the Web is an uncensored medium, searching it can yield unwanted results. Sites containing pornographic photographs and videos may appear. If found, these sites can stimulate class discussions about freedom of speech, whether or not children should have unlimited access to the Web, and whether public libraries and schools should allow censorship.

Procedure for a Web-based ESL lesson

Web-based activities can include electronic field trips to museums and historical sites; comparison shopping online; and finding information about health, home buying, and travel. However, as with any language teaching tool, there must be clear objectives, focused activities, and evaluation. There are three essential steps for Web-based activities:

- Prepare learners for the activity. Ask learners to define a problem and then identify possible sites or sources that may contain information that will help them to explore that problem. Be sure that learners have familiarized themselves with the use of search engines. Brainstorm keywords to be used in the search. Be sure that learners know how to use the browser and hardware (such as a CD-ROM drive) or software (such as Sound Card) that might be needed for audio or video. Establish how learners will record the information. Will they print pages, make notes, or complete a survey form? How much information will be enough?
- Perform the activity online. Locate the sources and gather the relevant information from each source.
- Process the information. Ask learners to organize the information collected from multiple sources. They may present this information in an agreed upon format. Have learners evaluate the information gathered as well as the information gathering process.

The following is an example of a Web-based lesson adapted from Bogarde (1995). Although written for K-12 learners, the lesson is also useful for adults, especially if the analysis and evaluation of both the product and the process is stressed.

Sample Lesson: Monitoring the Weather

- To prepare learners, review weather expressions (e. g., hot, cloudy, rainy). Teach or review the formula for converting Fahrenheit and Centigrade temperatures. Choose the cities that the class will monitor and locate them on the map. Decide whether to monitor the weather daily, weekly, or monthly. Ask learners to suggest some Web sources for weather or brainstorm some keywords for finding weather sites through a search engine. Decide what information will be tracked (e.g., temperature, precipitation, or other conditions). Record the information on a chart in the classroom; groups may choose to keep individual charts for different cities.
- To perform the activity online, have individuals or groups search for weather sites that contain information on the selected cities and record this information.
- To process the information, learners can organize the information they have gathered and make bar charts and graphs that illustrate the temperature or rainfall for each city. Ask learners to evaluate the various weather sites they used. Were some better than others? Why? Ask learners what part of the activity they would have changed. Was the process appropriate for their product?

Conclusion

The World Wide Web is an immense library of authentic materials for the language learning classroom. With careful planning, adult ESL instructors can use the Web in the adult classroom to help prepare learners for the workforce, to introduce them to American culture, and to help them improve their English language skills.

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The Virtual Campus
Technology and Reform in Higher Education

Gerald C. Van Dusen

The *virtual campus* is a metaphor for the electronic teaching, learning, and research environment created by the convergence of powerful new information and instructional technologies. Today there is a pressing call for technology to provide expanded higher education opportunities to a very wide spectrum of present and potential clientele.

What are the Implications of Teaching on the Virtual Campus?

A paradigmatic shift, from a professor-centered to a student-centered system of learning, has particular implications for the profession of teaching. One implication is a recommitment to creating an ideal learning environment for students, employing new technologies to address variances from the ideal. A second major implication for faculty is a shift from traditional to new roles and classroom responsibilities. The transition from lecturer to facilitator will not happen overnight and must be accompanied by institutional and professional commitment to incorporate research findings into professional development activities. Beyond merely providing technical training in the latest (and soon obsolete) technology, professional development activities will need to focus on crucial classroom variables that will ultimately determine the level of productive interaction and intellectual engagement apropos to the individual and group. (Barr and Tagg 1995).

How Will Classroom Learning Be Different?

Systemic reform has brought about a number of changes to postsecondary education, none more significant than what students learn and how they learn it. With time and distance effectively removed as constraints, colleges and universities are serving a more heterogeneous clientele with diverse educational backgrounds and needs. As Plater (1994) suggests, "these new century students confront us with the possibility that a postsecondary educational system designed to manage enrollment growth by weeding out unprepared or uncommitted students may no longer be appropriate or economically defensible" (p. 9).

Perhaps the most telling difference between learning in the traditional and virtual modes is the kind and extent of interaction. In the traditional classroom, the potential for learner-instructor and learner-learner is very high, but instructors have largely ignored this mandate for change and continue to employ the lecture mode as the predominant method of instruction. In the virtual classroom, on the other hand, technology supports collaborative learning, heterogeneous groupings, problem-solving and higher order thinking skills--educational processes that a lecture format cannot facilitate.

What Will Be the New Scholarly Agenda for Research?

Today's American higher education establishment is an aggregate of three functions—teaching, service, and research. Critics of American higher education today contend that especially since the Second World War faculty have placed emphasis on the research function to the detriment of teaching and service at a time when our culture demands the preparation of workers for a competitive and volatile economy. Voices from within the academy have proposed a reconceptualization of scholarship, one that expands the practice of present-day research to include integration, application, and teaching (Boyer 1990).

New forms of scholarship may necessitate a new epistemology. The scholarships of integration, application, and teaching entail "action" research that may fall outside the boundaries of prevailing institutional epistemology. College and universities must become learning organizations that foster originality and innovation.

Can Technology Help to Create a Culture of Quality?

Calls from external constituencies for academic institutions to demonstrate greater accountability and systemic improvement have prompted many colleges and universities to adopt the principles of Total Quality Management (TQM). Less a set of specific tools than an underlying philosophy, TQM has been distilled by Chaffee and Sherr (1992) into three simple ideas: defining quality in terms of customer needs, bettering work performance, and improving administration. If TQM is the underlying philosophy, Information Resource Management is the facilitator of broad access to information.

In the academic sphere, TQM faces stiff faculty resistance. Many faculty see TQM as "another management fad from the evil empire of business" (Chaffee and Sherr 1992, p. 93). If academic TQM is to emerge as an agent of organizational reform, it is likely to come about more through faculty initiative than external pressure..

How Can the Governance and Finance Considerations Be Managed?

As large sums of money are contemplated and eventually allocated for educational technology development, college and university boards face a number of daunting tasks (Krebs). First, boards must closely monitor regulatory legislation and actively participate in public policy debate. Distance education providers must stay abreast of federal and state regulations which often adversely affect the inter-state delivery of programs and services. Second, boards must establish a telecommunications policy and a strategic plan for its implementation. Third, boards must shepherd resources by defining genuine instructional needs and identifying appropriate technological solutions to fulfill them.

What Conclusions and Recommendations Can Be Drawn?

Colleges and universities are just now crossing the threshold between modest experimentation with and mainstream adoption of information technologies (El-Khawas 1995; Green 1996). Because of the serious repercussions reform efforts are already having on the academy, a number of conclusions and recommendations are warranted. Following are seven conclusions: (1) a paradigm shift can occur only in institutions committed to comprehensive reform; (2) attempts to change the classroom focus from "the sage on the stage" to collaborative learning are likely to fail without a substantial commitment to professional development; (3) higher education will continue to be market driven, requiring redoubled efforts to define academic productivity; (4) new constituencies appear to be well served by a variety of distance learning venues; (5) the TQM movement has made impressive inroads in higher education administration; however, very little penetration has occurred where it most matters—on the academic side of the institution; (6) even as instructional use of technology rises, institutional support for applications development has been dilatory; and (7) the historic commitment to core values in traditional undergraduate education has wavered; the same vacillation threatens to undermine general education requirements in electronically delivered certificate and degree programs.

In the absence of conclusive data with respect to wise technology choices and successful teaching/learning models, institutions must carefully prepare today for what is anticipated as a widespread integration of information into teaching, learning, and research. Following are seven recommendations for beginning this process of integration: (1) create a venue where key stakeholders can analyze major technology issues and purchases; (2) assert the value of technology-based learning from a variety of research perspectives; (3) establish quality standards for certificate and degree programs; (4) avoid pitting traditionalists against technology enthusiasts; (5) make *collaboration* and *cooperation*, not *reengineering* and *restructuring*, the new institutional buzzwords; (6) retain a strong commitment to adequate library staffing and funding; and (7) prepare for success by creating the necessary support structures.

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by Judith O. Wagner

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The World Wide Web and Vocational Education

As Eric Parks says, "I'm certain cybertechnology will replace all the other learning technologies that exist today." (Caudron 1996, p. 35)

The Internet is a network of networks including the World Wide Web (WWW), listservs, newsgroups, and discussion forums along with electronic mail and electronic journals. To help vocational educators make the best use of the Web, this ***ERIC Digest*** updates an earlier digest (Wagner 1995) with suggestions for using the Internet in the vocational classroom and a list of websites of interest to vocational educators. It does not pretend to be an exhaustive list of vocational education resources on the Internet—that list changes daily. As in the earlier digest, much of the information that is included was received as a result of messages sent to several listservs asking how the Internet was being used in vocational education and corporate training. Previously, respondents indicated that they were just getting started and students were spending time surfing the Web, making use of electronic mail, and participating in listservs. The times they are a changin'! Now, in addition to all of the above, students are developing and maintaining websites, using digital cameras to evaluate teachers, delivering training to industry, and using materials found through Web searches.

A survey by Market Data Retrieval determined that approximately one-third of all public schools are online; that the larger the school, the more likely it is to use the Internet; and that the Internet is used mostly for research. If the integration of the Internet into the classroom is to be successful, teachers must be involved and work with it (Leiken 1996). The examples here show how vocational teachers and trainers are using the Internet.

Examples of Current Use

It has been suggested that increased use of performance support systems, sophisticated computer simulations and multimedia training programs are changing and diminishing the role of the traditional corporate classroom (Wulf 1996). Companies are discovering that they can use the Internet to distribute information, resources, and learning tools to employees worldwide with relatively little end-user support (Caudron 1996).

A high school teacher in Minnesota has developed a website for use in doing career research. Students look for career opportunities on the Web and check the classified ads in the local newspaper, which is also on the Web (M. Savchenko, Internet message, July 3, 1997).

In Australia, the Certificate in Workplace Leadership is offered through the Web. Industry participants work with an Internet module and a textbook. Although text-driven, the tutor is online (M. Greig, Internet message, July 2, 1997).

The University of Idaho has a project designed to assist teacher educators with the evaluation of teachers in the field through the use of digital cameras. The technology allows them to supervise student teachers and demonstrate teaching and classroom management. They also use the Internet for chat groups related to classes, and newsgroups and websites are created for exams and discussion (J. McMurtry, Internet messages, July 1 and August 19, 1997).

In a rural area of Ohio, students use the Internet to search for specific materials related to their programs. They have found automotive specifications and tune-up tips, home design plans and insulation specifications, and cosmetology product and styling ideas (D. Fullerman, Internet message, June 30, 1997).

The National School-to-Work Office's Practical Tool page includes over 200 manuals, curriculum, and guides that were created by local and state STW offices. The materials are useful in starting new school-to-work partnerships (A. Santo, Internet message, June 30, 1997).

An instructor in Canada uses exam questions from the U.S. Coast Guard and an interactive tutorial on learning how to read a micrometer from the U.S. Navy. He also uses a file of a spinning engine to perk up his lectures (G. Bradshaw, Internet message, June 28, 1997).

A Tech Prep/School-to-Work Coordinator in Florida uses the websites of the Occupational Outlook Handbook, O*NET, and TrainingNet in her business education class. She has also used career information websites for classes related to creating resumes, cover letters, and other job search methods (M. Teachout, Internet message, June 28, 1997).

A business and industry education professor from the University of Minnesota has created a variety of websites for various teacher education courses. A team of teachers will be developing new activities and the sites are regularly updated (J. Lambrecht, Internet message, June 28, 1997).

Examples of lesson plans can be found on the website of a vocational high school in Massachusetts. It also includes samples of student work (N. Moran, Internet message, June 29, 1997).

The director of the business education program at Southern Illinois University uses the Internet in a variety of ways: to communicate with students, to review curriculum from other schools, to keep abreast of current issues, to review marketing strategies from other countries, to obtain shareware, to find statistics, and to locate student and professional materials and associations (M. Erthal, letter, August 4, 1997).

Among the advantages of using the Internet are the following (Glener 1996; N. Moran, Internet message, June 29, 1997; Wulf 1996): ease of modifying and distributing curriculum; ease of sharing information and collaborating; reduced costs of printing and mailing manuals and CD-ROMs; multimedia capability; quick development time; variety of capabilities; ease of updating; learner control; opportunity for interaction; and availability of excellent materials and programs. Some barriers to using the Internet include limited bandwidth, lack of sufficient up-to-date equipment, newness of authoring systems, unreliable links, and lack of Internet skills.

Relevant Websites

ERIC Clearinghouse on Adult, Career, and Vocational Education (ERIC/ACVE): http://ericacve.org. ERIC/ACVE provides full text of ***ERIC/ACVE Digests***, ***Trends and Issues Alerts***, ***Practice Application Briefs***, and ***Myths and Realities***. It also includes general information on the ERIC system and links to all ERIC components and a variety of adult, career, and vocational education websites.

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National Center for Research in Vocational Education (NCRVE): http://ncrve.berkeley.edu/. The NCRVE site includes information about NCRVE, full text of many of their publications and newsletters, and links to other vocational education websites.

National Business Education Association: http://www.nbea.org/. NBEA includes standards, publication lists, membership information, conference and meeting information, scholarship information, and links to related sites.

Professional Secretaries International (PSI): http://www.gvi.net/psi/. PSI provides information about the organization, certification, membership, products and services, and full text of some products.

Vocational Education Resources: http://pegasus.cc.ucf.edu/~sorg/vocation.html. This site offers a vast array of links related to all aspects of vocational education including school-to-work/tech prep, research, federal government information, legislation, publications, career and job information, and training.

Skill Standards Network, American Training Standards Institute: http://steps.atsi.edu. The ATSI site provides information on projects, legislation, and standards.

Office of Vocational and Adult Education: http://www.ed.gov/offices/OVAE/. This U.S. Department of Education site includes information on funding, legislation, policy, school-to-work, press releases, and links to relevant sites.

Skillsnet: http://www.skillsnet.org. SkillsNET provides national and international trends, online technologies, publications, project descriptions, a research library, and links to other websites.

South Dakota Department of Education: http://seti.tec.sd.us/sdve/vocedsd.htm. This state site provides a calendar of events, excellent links, and other resources.

O*NET: http://www.doleta.gov/programs/onet/. This Department of Labor site replaces the outdated *Dictionary of Occupational Titles*. It includes information about job characteristics and worker attributes and provides links to other sites.

Florida School-to-Work Information Navigator: http://www.flstw.fsu.edu/. The Florida site includes information on grants and legislation, professional development, resources, a calendar of events, and links to other sites.

School-to-Work National Office: http://www.stw.ed.gov/. This government site includes hot topics, resources and tools, grant information, lists of technical assistance providers and state initiatives, and a calendar of events.

ERIC Review on School-to-Work: http://www.aspensys.com/eric/ter/stw/. Full text of *The ERIC Review* issue on school-to-work is available at this site.

AskERIC Virtual Library and Other Resources: http://www.askeric.org. This is a gateway to the resources of AskERIC including the AskERIC Virtual Library, a Q&A service, links to all ERIC components, and the searchable ERIC database.

National Center for Education Statistics: http://www.ed.gov/NCES/. This U.S. Department of Education site includes frequently asked questions, publications, and information about projects, data, and surveys.

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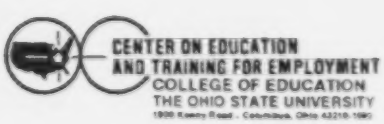

Priority 7: Safe and Drug-Free Schools

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Drug Abuse Prevention: School-based Strategies that Work

Kris Bosworth

Introduction

Use of alcohol, tobacco, and other drugs (ATOD) is common in adolescence. According to an annual survey of high school students, their use of alcohol has remained consistently high for the past 20 years, with about 81% of seniors in 1995 reporting having drunk alcohol at least once in their lives and a little over half (51.3%) reporting alcohol use at least once in the past month. Prior to 1991, use of tobacco and illicit drugs (i.e., marijuana, crack/cocaine, stimulants, inhalants, LSD, heroin) had been decreasing since the peak levels in the late 1970s. Since 1991, however, these rates have increased steadily. In 1995, 39% of seniors reported they had used an illicit drug at least once, whereas in 1991, 29.4% reported ever using an illicit drug. Using a survey timeframe of the past 30 days, 23.8% report using one drug in 1995, up from 16.4% in 1991. This increase in use is coupled with a decrease in the belief that drugs are harmful. For example, in 1991, 79% of seniors thought that regular marijuana users were at great risk for harm; only 61% felt that way in 1995. Since a belief in the harmfulness of a drug has been shown to be an important deterrent to use, the sharp decline in the belief in the harmfulness of marijuana adds urgency to ATOD prevention efforts (Johnston, O'Malley, & Bachman, 1996).

Role of the Schools in Prevention

For the past two decades, significant public and private resources have been allocated to prevent youth from using alcohol, tobacco, and other drugs, and from this effort research has identified effective prevention strategies. Thus, 20 years of prevention research and evaluation places educators and other concerned adults in a position to intervene to counter the trend of increased ATOD use by adolescents (Sussman & Johnson, 1996; Tobler and Stratton, 1997; Duesnbury & Falco, 1995; Hansen, 1992). Since most ATOD use begins before the age of 20, schools are the primary institution with access to this age group. Additionally, the most common prevention strategy has been education, which is compatible with schools' goals (Dryfoos, 1990).

What Works . . . and Doesn't

Although the research is far from conclusive, there is evidence that some strategies are ineffective. Scare tactics, providing only information on drugs and their effects, self-esteem building, values clarification, large assemblies, and didactic presentation of material have not been shown to be particularly effective in the prevention of ATOD use (Tobler & Stratton, 1997).

Other approaches have been shown to have positive results. No one intervention will be able to prevent use and abuse of drugs for everyone but studies indicate characteristics of curricula and programs necessary for success.

Because the majority of youth experiment with substances, particularly alcohol and tobacco, ATOD prevention needs to target all students. Since risk factors are present years before initiation, prevention activities must start in elementary school and be periodically reinforced as students encounter new social situations and pressures to use substances. Programs designed to meet developmental needs of the students should be offered at each grade level without oversaturating students to the point they discount the information.

Drug Abuse Prevention Curriculum Content

Research has identified that prevention programs need to be comprehensive and have sufficient intensity to reasonably expect that the skills can be taught (Sussman & Johnson, 1996). Content areas that are necessary for an effective curriculum include:

Normative education. Helps students realize that use of ATOD is not the norm for teenagers. Students generally overestimate the proportion of their peers actively involved in ATOD. Hence, it is easier to be pressured by the myth that "everybody is doing it." Student surveys and opinion polls are used to help students understand actual use rates.

Social skills. Improving verbal skills may help students increase their ease in handling social situations. Decision making, communication skills, and assertiveness skills are particularly important during the late elementary and middle school years when puberty changes social dynamics between young people themselves as well as with the adults in their lives.

Social influences. Helps students recognize external pressure (e.g., advertising, role models, peer attitudes) to use ATOD and to develop the cognitive skills to resist such pressures.

Perceived harm. Helps students understand the risks and short- and long-term consequences of ATOD use. The message must come from a credible source and be reinforced in multiple settings.

Protective factors. Supports and encourages the development of positive aspects of life such as helping, caring, goal setting, and challenging students to live up to their potential and facilitating affiliations with positive peers (Hawkins, Catalano, & Miller, 1992).

Refusal skills. Learning ways to refuse ATOD effectively and still maintain friendships was a strategy heavily relied on in many early curricula. Recent research indicates that it is most relevant in supporting teens who do not want to use drugs and in conjunction with other activities such as social influences and normative education.

Other Factors

Curriculum delivery also has a critical influence on curriculum effectiveness. Successful curricula rely on interactive techniques rather than on lectures or other forms of one-way communication (Tobler & Stratton, 1997). Role plays, simulations, Socratic questioning, brainstorming, small group activities, cooperative learning, class discussions, and service learning projects are strategies that engage students in self-examination and learning (Bosworth & Sailes, 1993). Refusal skills need to be practiced in the classroom through role plays in the

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context of realistic settings where ATOD might be offered. Videos and multimedia software that are set in real-world environments can be used to provide models of appropriate behavior and to stimulate discussion.

Teacher attitudes and school and classroom climate may also be preventive. Adults in schools need to model the social, decision-making, and communication skills taught in the curriculum. Setting high expectations, open and supportive communication, a value of caring and helping, and the creation of a positive environment may be as important as curricula. Prevention messages can be integrated into general curricula, and literature, movies, songs, or current events that portray substance use/abuse can help students understand social pressures and the personal consequences of ATOD use.

Role of the Community

Because of the complexity of the problem, coordination of prevention messages and activities with other institutions in a youth's life is essential. The community, not the school, is where most teen ATOD use occurs. Schools must be actively involved in planning and coordinating community-wide activities that develop and strengthen anti-drug-use norms in the community and family as well as among peers, including public policy, media-created awareness, advocacy, and enforcement. Communities can be active in changing and supporting non-use-norms and reinforcing messages given at school. Many curricula have suggestions for integrating parent activities and information sharing (Aguire-Molina & Gorman, 1996).

Implications for Teacher Education

To translate prevention research into classroom practice requires that teachers have the motivation, knowledge, and skills to be effective implementers of ATOD prevention curriculum, create positive and intellectually stimulating classrooms, and be willing to support and work on community prevention efforts. Many of the following suggestions can complement content that is already an integral part of teacher preparation.

If teachers are to present a prevention curriculum, they must understand the serious consequences of ATOD use during the teen years, particularly for young adolescents. Teachers should examine their own ATOD history and current use patterns to identify any bias they may unintentionally convey to students that would contradict the message of the ATOD prevention program. In addition, teachers should be able to counter student remarks that glamorize or minimize the consequences of drug use. Therefore, teacher education needs to provide preservice teachers with statistics on use rates as well as information on predictor variables, mediating factors, and prevention strategies.

Interactive techniques used in ATOD curricula can be used with almost any classroom subject. Both current teachers and teachers in training need exposure to and practice in a variety of such techniques. The regular use of interactive strategies in all content areas will help to increase student involvement in learning, which has an impact on protective factors.

Teachers should be familiar enough with research-based prevention to be able to make informed choices about curricula and other programs. Several guides to effective curricula and programs are available to facilitate selection (Dusenbury, 1996; Bosworth, 1996). Teachers must request information about outcome results and select programs that work, rather than slick but ineffective programs.

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Kris Bosworth, Center for Adolescent Studies, Indiana University (Author)
Mary E. Dilworth, Director
Liane M. Summerfield, Associate Director, HPERD Division

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Early Childhood Violence Prevention

Marilyn S. Massey

Consider these grim statistics regarding American children: every day, 10 are murdered, 16 die from guns, 316 are arrested for crimes of violence, and 8,042 are reported abused or neglected (Children's Defense Fund, 1997, p. 15). In 1996, more than 3 million children were reported as victims of child abuse and neglect to child protective agencies in the United States (National Committee to Prevent Child Abuse [NCPCA], 1998). Wang and Daro estimate that more than 3 children die each day as a result of child abuse or neglect. Of these children, approximately 78% are under 5 years old at the time of their death, while 38% are under 1 year of age (cited in NCPCA, 1998). Violence is now perceived as a public health issue, and there is much evidence to illuminate its deleterious effects.

Among the current prevention and intervention efforts are Healthy People 2000, which identifies violence prevention as a national health priority; the National Education Goals, which call for safe and drug-free schools; and the American Academy of Pediatrics' Health Status Goals for 1997-1998, which call for a reduction in domestic, community, media, and entertainment violence (National Education Goals Panel, 1997; American Academy of Pediatrics, 1997).

This Digest focuses on preventing violence in children's lives and suggests ways caregivers, parents, and teachers can reduce the damaging effects of violence.

The Effects of Violence on Young Children

The Early Years. Even before a child is born, violence can have a profound effect upon its life. Studies show that battered pregnant women often deliver low birth-weight babies who are at great risk for exhibiting developmental problems (Prothrow-Stith & Quaday, 1995). Shaken Baby Syndrome, the shaking of an infant or child by the arms, legs, or shoulders, can be devastating and result in irreversible brain damage, blindness, cerebral palsy, hearing loss, spinal cord injury, seizures, learning disabilities, and even death (Poussaint & Linn, 1997). The growing body of knowledge regarding early brain development suggests that "the ways parents, families, and other caregivers relate and respond to their young children, and the ways that they mediate their children's contact with the environment, directly affect the formation of neural pathways" (Shore, 1997, p. 4).

Psychological Effects. Violent children usually come from violent homes, where parents model violence as a means of resolving conflict and handling stress (Page et al., 1992). Even if children are not abused physically themselves, they can suffer psychological trauma, including lack of bonding, from witnessing battering. As Lerner (1992) points out, attachment or bonding has far-reaching implications not only for the emotional well-being of a child, but also for a child's cognitive development and the child's ability to cope effectively with stress and to develop healthy relationships. Children who witness violence can display an array of emotional and behavioral disturbances, including low self-esteem, withdrawal, nightmares, self-blame, and aggression against peers, family members, and property (Peled, Jaffe, & Edleson, 1995).

Violence and Learning. Research also shows that chronic exposure to violence adversely affects a child's ability to learn (Shore, 1997; Prothrow-Stith & Quaday, 1995; Kurtz, Gaudin, & Wodarski, 1994; Lorion & Saltzman, 1993). Learning itself is an essential tool for violence prevention (Prothrow-Stith & Quaday, 1995). Children who achieve in school and develop important reading, critical thinking, problem solving, and communication skills are better able to cope with stressful and perhaps dangerous situations. Also, academic achievement enhances the development of positive self-esteem and self-efficacy, both of which are necessary for children to experience emotional well-being and to achieve success. The relationship between violence and learning is particularly significant because cognitive skills are crucial in terms of academic success, self-esteem, coping skills, and overall resilience. As Prothrow-Stith and Quaday (1995) assert: "When our children's ability to learn is being dangerously undermined, the foundation of our society is being damaged in a manner that cannot be easily repaired" (p. 27). Interventions must begin early in order to help children develop higher-order thinking skills, empathy, impulse control, anger management, peaceful conflict resolution, and assertive communication.

What Caregivers, Parents, and Teachers Can Do

Children learn from what they see. To prevent violence, parents and teachers need to model appropriate behaviors in the way they manage problems, conflict, anger, and stress. Parents, teachers, and other caregivers can help children learn to deal with emotions without using violence. They also can practice specific steps to prevent violent behavior. The American Academy of Pediatrics and the American Psychological Association (1995) provide suggestions to help parents and other caregivers reduce violence:

- Give children consistent love and attention—every child needs a strong, loving relationship with a caring adult to feel safe and secure, and to develop a sense of trust.
- Ensure that children are supervised and guided—they learn important social skills by interacting with others in well-supervised activities. Unsupervised children often have behavioral problems that can lead to violence.
- Model appropriate behaviors—children learn by example. Discuss problems with them, and help them learn nonviolent solutions to conflict and problems.

- Do not hit children—physical punishment sends the message that it is acceptable to hit others to solve problems. Nonphysical methods of discipline help children deal with their emotions and teach them peaceful ways to handle problems and conflicts.
- Be consistent with rules and discipline—children need structure for their behavior, including clearly stated, logical consequences for not following the rules.
- Make sure children do not have access to firearms—never store firearms (even if unloaded) in places where children have access to them. Teach children about the dangers of firearms and steps to take if they find a gun.
- Try to keep children from seeing too much violence in the media—limit television viewing time, and talk with children about the violence they see in movies, on TV, and in video games. Help them understand how painful violence is in real life and discuss its serious consequences.
- Teach children ways to avoid being victims of violent acts—stress personal safety, including what to do if anyone tries to hurt them and how to call 911.
- Take care of yourself and be connected with your community—stay involved with family, friends, and neighbors. Take pride in your community, and be proactive in helping to keep it safe.

Directors of preschools and child care centers have an opportunity to specifically address violence prevention in early childhood. There are numerous violence prevention methods that can make a difference in the lives of parents and young children. Here are some workable ideas:

- Offer parenting classes that deal with effective parenting and child development.
- Conduct training for parents, expectant parents, and those who work directly with young children. Life skills that can be addressed include specific violence prevention skills (e.g., empathy, gentle touch, anger management, impulse control, conflict resolution, and learning how to set and enforce limits); stress management and positive coping techniques; problem solving; and communication.
- Provide educational opportunities concerning the prevention of Shaken Baby Syndrome. Show parents and caregivers how to recognize their emotional "triggers" (when they feel they are about to lose control), and teach them anger management and coping techniques for self-control.
- Send home tip sheets or include tips in family newsletters that deal with topics related to violence prevention, including Shaken Baby Syndrome, stress management, and communication. A list of parenting resources and hotline numbers also can be included.
- Teach children at an early age that feelings are normal—even feelings of anger or hurt; however, violence is *not* an acceptable method for expressing anger, frustration, and other negative feelings.
- Be a vigilant, positive role model.

Conclusion

As Pransky (1991) explains, "Our behavior is shaped by conditions in our environment, particularly as we grow. This is the essential piece to the puzzle. The way our children are treated within their important environments will largely determine the shape they will be in and how they will behave" (p. 7). All Americans are stakeholders in the quest to prevent violence in the critical early years. All children deserve the opportunity to "fly" and reach their highest potential—we must not allow them to become "hidden casualties."

For More Information

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Education Reform and Students at Risk

By Karen Irmsher

By the year 2020, the majority of America's public school students will be living under conditions that place them at risk of educational failure. This is a projection, of course. But the trend toward ever higher percentages of poorly housed, malnourished, abused, and neglected children is inarguable.

It's a rare school that hasn't already reconfigured its offerings to provide the extra boost such students need to bolster their chances for academic success. With no substantial knowledge base for identifying consistently effective strategies, these efforts have resulted in widely varying outcomes.

In 1991, Congress sought to remedy this and other knowledge deficits by commissioning the Department of Education's Office of Educational Research and Improvement to investigate various aspects of education reform. One of twelve resulting studies focused on the effects of school reform on students at risk*; this Digest encapsulates that study's findings. The study gathered information at eighteen schools that had worked successfully with at-risk youth.

The study's primary research goal was to reveal the essential mechanics of effective reforms for students at risk. Supportive subgoals included documenting incentives for, and barriers to, implementing and sustaining these reforms.

*The study's three volumes are listed under Resources.

What Components Are the Traits of Effective Programs?

Two broad, overarching conditions are typically present in schools that successfully serve at-risk students. First, these schools function as caring, cohesive communities. Second, they operate under standards similar to high-reliability organizations (HROs).

In the schools researchers visited, a strong sense of community provided the foundation for positive change at the building level. In the most successful ones, reform decisions were made, sustained, and supported at the building, district, and state levels in ways characteristic of HROs.

Noneducational examples of HROs are air-traffic-control towers and regional-power grids. To meet the expectation of 100 percent failure-free operation, these organizations provide whatever level of support is deemed necessary to achieve this goal.

Clearly, the two concepts are interrelated. The schools that functioned as high-reliability organizations were also more successful at facilitating the development of enthusiastic learning communities.

What Makes a School a Caring Community?

Ten elements characterize adult, student, and adult-student relations in schools that function as communities: shared vision, participation, shared sense of purpose, caring, shared values, trust, incorporation of diversity, teamwork, communication, respect, and recognition

Shared vision, purpose, and values were generally the result of mutual efforts to define common goals. Strong principals were typically good listeners who worked with staff, students, and parents to reach consensus.

Incorporation of diversity was a hallmark of all eighteen successful sites. Frequent cultural celebrations were the norm, along with strong outreach efforts to involve area families. Communication and participation were encouraged by open-door policies and open forums for discussion. Caring, trust, and teamwork generally developed as a result. Respect and frequent recognition of efforts and successes were evident, stimulating teachers and students to do their best.

A strong sense of community is difficult to achieve in very large secondary schools. Creating smaller units within larger schools is one effective first step in cultivating community in such settings.

What Are the Characteristics of High-Reliability Schools?

HROs typically have three features. With regard to *mission*, central goals are clear and widely shared. Staff members and the public believe failure to achieve core tasks would be disastrous. Because of their high rate of reliability, HROs are greatly valued. Successful schools are strongly supported by the community of adults working within the school, the surrounding community, and the district's central administration, as well as state-level decision-makers and program developers.

Similarities in *management structure* and *resource management* comprise the second set of characteristics. The management structure is a flexible hierarchy with clearly defined roles and responsibilities. Administrators incorporate collegial decision-making when appropriate. Staff members at all levels are empowered to deal effectively with emergencies across as many traditional boundaries as are necessary to avoid

failure. Standard operating procedures, based on formal, logical decision analysis, are the norm, and vigilance against failure is highly prized. Key equipment is available and well-maintained, databases are up-to-date and relevant, and fiscal priorities focus on high reliability over short-term efficiency.

Professionalism is also a critical feature. HROs rely on the professional judgment of all staff members. To this end, they stress intensive recruitment and ongoing training.

What Resources Are Needed To Implement and Maintain Effective Reforms?

Implementation is considered a long-term process, not a quick fix. The mobilization of monetary, personnel, material, and political resources is essential.

Monetary resources were diversified in all the schools studied. While all sites made use of external funds such as foundations, grants, and special state funds, no sites relied solely on these outside resources to fund reforms. These programs enjoyed local, within-system support for these programs at the school or district level.

The categorical nature of many public and private funding sources necessitated a creative, sometimes patchwork approach to project budgets. This could easily have resulted in pronounced fragmenting of programs, were it not for the full-time commitments of budget developers and program planners. Title I and state compensatory-education funds typically undergirded the participating elementary schools. In some cases, external funding was used to provide important add-ons to ongoing efforts.

When it came to personnel resources, the principal was a key player. He or she was a "believer," willing to lend support or to take credit for the program's successes. In addition, each site benefited from staff persons trained in the particular school-program approach. Other personnel involvement included paid classroom aides, parent/adult volunteers, community volunteers, extra staff time, reform-tested advisors, and new teacher pipelines (professional networks to colleges or universities).

Each school provided the needed material resources. These included reform-related instructional materials (books, supplementary reading materials, manipulatives), along with the typical array of general instructional materials. In one or two cases, computers played an increasingly expansive role, but this was not generally true. Staff at many of the sites had invested effort in creating a comfortable, attractive environment for students. Student-created artwork was often displayed prominently.

Major political resources came through affiliation with institutions of higher education and the private sector. In addition to being beneficiaries of pools of prospective new teachers, some sites received additional monetary resources and enhanced credibility through their association with colleges and universities. Several sites also forged relationships with local companies and firms. Tapping into these linkages opened a flow of fresh volunteers, generated funds designated for the purchase of equipment and supplies, and provided opportunities for students to learn job-related skills while receiving minimum wage.

What Are the Implications for Policy and Practice?

The researchers believe individual schools acting in isolation cannot ensure that at-risk students will receive a quality education. While keeping students from dropping out of school is an important goal, current standards are so varied that large numbers of high school graduates are clearly undereducated.

They state, "There is simply no way to safeguard the educational futures of students—especially students who are placed at risk—without the assurance that, as a nation, we will maintain a coordinated, coherent, and consistent program of schooling for all."

Local bureaucrats and educators must collaborate with federal and state representatives to set clear, agreed-upon goals and objectives. The authors see the current call for a reduced federal role in education as moving in the opposite direction from what is needed.

They recommend that federally funded demonstration programs and evaluations build upon ongoing state and local efforts. At the same time, statewide assessment initiatives and other reforms should build more effectively on national efforts to develop standardized profiles of student performance in various curriculum areas.

In addition to setting clear goals and aligning federal, state, and local education programs to better serve students, the authors recommend maintaining external sources of support for schoolwide programs (for example, Title I); upgrading teacher-training and staff-development programs; and fostering the development of sense of community among students and staff.

A coherent, sustained program of applied research and evaluation is also needed, to discover more about the conditions that foster or cripple reforms for students at risk. Finally, all who are involved need a mechanism for disseminating research findings related to assisting at-risk students.

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GIRLS AND VIOLENCE

Girls' involvement in delinquency and crime, though still less than boys', appears to have increased significantly in the last two decades. There is, however, little knowledge about the causes of girls' violence, and few studies have been conducted on young women's crime and delinquency. Meda Chesney-Lind and her associates have undertaken the most comprehensive analysis of these studies. They have provided much insight into this complex issue, showing significant differences between violent acts by girls and boys. This digest reviews current research on girls' delinquent and violent behavior, the factors contributing to it, and effective programming strategies to prevent it.

The Scope of Girls' Delinquency and Violence

The Nature of Girls' Crime

Girls are involved in more violent crime than they were a decade ago; their murder arrest rate is up 64 percent, for example. Still, violent crimes accounted for only 3.4 percent of girls' arrests in 1994 (Chesney-Lind & Brown, 1999). Changes in the way girls are charged, as opposed to the commission of more violent crimes by girls, may explain part of the increase in arrests for violence. For example, a girl who, in self-defense, shoves her parents out of the way as she tries to run away is now likely to be arrested for assault, a criminal offense; previously, she would have been arrested for the lesser status offense of running away (Chesney-Lind & Shelden, 1998). Nevertheless, status offenses (considered offenses only because the perpetrator is a minor), such as running away, prostitution, or curfew violations, continue to comprise most of girls' arrests, possibly because of a public tendency to sexualize girls' offenses and attempt to control their behavior (Chesney-Lind & Shelden, 1998).

Differences Between Girls' and Boys' Violence

Violent crimes committed by girls differ significantly from boys' offenses. Boys are two to three times more likely to carry weapons, and girls are more likely to use knives than guns, boys' weapon of choice. Girls are more likely than boys to murder someone as a result of a conflict rather than during a crime, and to murder and fight with family members (Girls Incorporated, 1996). Girls remain less likely than boys to be arrested in general, and far less likely to be arrested for violent crimes (homicide, forcible rape, aggravated assault) and serious property offenses (burglary, arson). The sex ratio of arrests has changed very little over the decade, since the recent increases in the arrest of girls parallel increases in boys' arrests, suggesting that the upward trend simply "reflects overall changes in youth behavior" (Chesney-Lind & Brown, 1999, p. 176).

Girls' Participation in School-Related Violence

Most, but certainly not all, aggressive acts in school, such as physical fighting, bullying, and weapon carrying, are carried out by males and aimed at males. One study reported that while nearly 18 percent of the boys carry a weapon to school only 5 percent of girls do so (Flannery, 1997). Another showed, however, that in schools characterized by large numbers of boys carrying weapons, there is a correspondingly high rate of girls with weapons, although boys may carry guns while girls carry knives (Webster, Gainer, & Champion, 1993).

Causes of Girls' Delinquency and Crime

Psychosocial Theories

In the 1970s violent girls began receiving more attention from researchers because of the perceived increase in their offenses and because of the involvement of more women in scholarship. Much of the work focused on explaining why so few girls and women participate in criminal activity compared with males, rather than on what motivates females toward crime and delinquency.

Biological differences between males and females were assumed to be a reason for the crime rate differential. Differences in socialization were also thought to produce aggressive and independent males and passive, dependent, and conventional females (Artz, 1998). The increase in female violence was attributed to the perpetrators' renunciation of femininity and the adoption of masculine characteristics and values. The women's movement, which fostered assertiveness and was said to encourage young women to adopt certain "male behaviors" (drinking, stealing, and fighting), was blamed as well (Adler, 1975). Subsequent research, including data showing that the increase in female crime was really not significant, discredited most of these findings (Chesney-Lind & Shelden, 1998).

Social and Environmental Risk Factors

Current research on adolescent violence and delinquency considers how social class, race, ethnicity, and culture interact to cause young women to behave violently (Chesney-Lind & Shelden, 1998). It also helps explain why girls join gangs: to develop skills to survive in their harsh communities and temporarily escape a dismal future (Campbell, 1991; Chesney-Lind & Joe, 1995).

Women jailed for crimes, compared with their male counterparts, are much more likely to report previous ***sexual or physical abuse***, ranging from 40 percent to 70 percent of respondents in various surveys (Artz, 1998; Chesney-Lind & Shelden, 1998; Koroki & Chesney-Lind, 1985). Violent young women are more likely to come from ***troubled or violent families***. Their home life, characterized by poverty, divorce, parental death, abandonment, alcoholism, and frequent abuse, leaves them quick to anger, distrust, and revenge (Artz, 1998; Koroki & Chesney-Lind, 1985).

Girls from poor families may seek recognition by adopting a "bad girl" image upon finding that their college aspirations will go unrealized, as they are unable to gain status through white middle-class means (i.e., schooling, careers). But they also embrace ***traditional gender role expectations*** for the future: marriage, support by a man, a large family, and work in stereotypically female jobs. They think that men should be strong and assertive, and women passive and nonviolent (Koroki & Chesney-Lind, 1985). Such beliefs may hold young women in abusive romantic relationships and raise their risk of engaging in delinquent and violent acts (Chesney-Lind & Shelden, 1998).

Artz (1998) hypothesizes that a major factor in girls' aggression toward other girls is a general negative view of females based on a personal ***low sense of self-worth***, resulting from sexual abuse and an internalized belief in women's inferiority. Bottcher's study (1986) of young African American and Latina women incarcerated for serious offenses identified additional factors which propelled them toward violence: ***leaving home or being kicked out; considerable free time without adult supervision***; and an **"inadvertent drift" into violence** and crime as their lives began to fall apart.

In general, ***school failure*** increases young people's risk for violence and delinquency (Artz,1998), although poor school performance appears to have a stronger effect on girls than boys (Rankin, 1980). While high grades and positive self-esteem seem to depress girls' involvement in violence and delinquency, boys' high grades raise their self-esteem, creating favorable orientations to risk-taking and thus greater delinquency (Heimer, 1995).

Implications for Interventions

To serve young women effectively, programs must develop culturally-sensitive, gender-specific approaches. They must take into account the fact that girls' problems are often gender related (i.e., sexual abuse, male violence, role in the family, occupational inequality, early motherhood), and must develop gender-specific approaches. Unfortunately, funding for programs addressing delinquent girls' unique needs has been low: in 1975, for example, only $1.00 of every $4.00 donated by corporations was spent on programs for girls (Chesney-Lind & Shelden, 1998), and a recent review of youth program evaluations showed that only 2.3 percent of delinquency programs served girls only.

A review of the few existing programs effective with at-risk young women suggests that three common elements combine to support them in all facets of their lives (Chesney-Lind & Shelden, 1998). First, a ***comprehensive counseling component*** addresses the multiple problems of delinquent and at-risk young women, including sexual abuse and violence in teen relationships. Second, successful programs include ***educational and occupational support***. Third, they ***address the needs of young women not able to remain with their families***. Further, they provide young women with access to caring adults and organized community activities.

Girls Incorporated (1996) has recently published a review of promising programs which target delinquent and at-risk girls. Effective programs include many Girls Incorporated programs which are sponsored nationally. Examples include Friendly PEERsuasion, which addresses issues such as helping girls to avoid substance abuse; Preventing Adolescent Pregnancy, which teaches strategies for avoiding early pregnancy through better parent-daughter communication and postponing sexual activity, and provides health care; Operation SMART, which enhances science and technology skills; and FUTURE (Females Unifying Teens to Undertake Responsible Education), which provides peer support in such areas as substance abuse, sexual and physical abuse, and gang involvement. Girls Incorporated has also identified local programs whose effectiveness results from customization for the local female population.

Finally, because male violence and aggression against young women are often a factor in female delinquency and violence, separate programs need to be developed for aggressive and violent men and boys. This would minimize the risk of female victimization and, in turn, reduce the risk of girls' participation in violence.

—Jeanne Weiler,
Institute for Urban and Minority Education,
Teachers College

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96
7

Identifying and Evaluating Children's Health Resources

Marilyn S. Massey and Charlotte M. Hendricks

Parents and teachers partner to teach young children about their health and to provide opportunities develop a knowledge and skills base that is the foundation for future health and lifestyle decisions. Parents and teachers need accurate, timely, and developmentally appropriate materials, including books, songs, videos, and instructions for hands-on activities, that help children learn key health concepts.

Not all health education materials are appropriate for all audiences. The format, content, reading level, or location can limit the appropriateness or effectiveness of materials for some populations. Inaccurate materials may even endanger a child. The purpose of this Digest is to provide guidance in helping parents and teachers judge the quality of health education resources and identify sources of appropriate materials.

Where to Locate Health Resources for Children

Libraries. Many important sources of information about children's health can be accessed through libraries. Most university and some community libraries have computer databases that allow an individual to search for topics of interest. Databases that cover children's health include ERIC, Medline, and PsycINFO. Also, libraries have paper indexes (e.g., *Child Development Abstracts and Bibliography*, and *Family Index*), reference works (e.g., *Childhood Information Sources* and *Resources for Early Childhood*), and children's literature. Reference librarians can help locate information from these and other sources.

Professional Organizations and National Organizations/Agencies. Many national organizations publish outstanding health resources for children. Examples include: *Hip on Health* and *Tell Me About AIDS* (American School Health Association); *HIV Prevention Education for Teachers of Elementary and Middle School Grades* (American Association for Health Education); *Children Riding on Sidewalks Safely* and *Walk in Traffic Safely* (National Association for the Education of Young Children); *Family Shopping Guide to Car Seats and Parenting Guides* (American Academy of Pediatrics); *5 A Day Adventures* (Dole); *Learn Not to Burn* (National Fire Protection Association); *Nutrition Education Materials Catalog* (National Dairy Council); and *Sesame Street Lead Away!* (National Safety Council). Several organizations are listed before the reference section in this Digest, and many others are cited in school health education textbooks (see Gilbert & Sawyer, 1995; Meeks, Heit, & Page, 1996).

Internet. There is a worldwide repository of information available to anyone with access to an Internet connection and a graphical browser for accessing the World Wide Web (WWW). Two health specific search engines are Health Explorer (http://www.healthexplorer.com) and Yahoo Health Directory (http://www.yahoo.com/health). On-line resources that can be helpful in learning more about the Internet include:

- *The Help Web* (http://www.imagescape.com/helpweb)
- *About the Internet* (http://home.netscape.com/assist/about_the_internet.html)
- *UCLA Libraries-* Instructional Resources on the Internet (http://www.library.ucla.edu/instruc/remote.htm#internet)

There are a number of credible Internet sites that deal with children's health. Ritzel (1996) supplies addresses for sites relating to safety education and injury prevention. In addition, most national health and education organizations/agencies have WWW sites that provide links with children's health-related resources (see list before the reference section). For tips on evaluating credible sites, see Pealer and Dorman (1997).

Evaluating Content

One guideline for judging content accuracy is to verify the credibility of the publisher or the source of the materials. For example, a media advertisement about a health product is primarily intended to sell the product, not to deliver health information. However, materials produced by well-known professional organizations have education as a purpose and have been thoroughly reviewed by experts.

A related guideline is to review the author's credentials. While an author's credentials such as MD (Medical Doctor), RN (Registered Nurse), CHES (Certified Health Education Specialist), or RD (Registered Dietitian) do not guarantee the accuracy or appropriateness of materials, they do indicate the author has had formal training in a particular health-related field. One's own knowledge is also helpful in judging accuracy and in recognizing misinformation. For example, many adults know that aspirin is not recommended for children's fever because of the potential for developing Reye's Syndrome. Therefore, an article or book that recommends aspirin as a child's fever reducer is likely to contain other errors as well. Likewise, because it is well known that helmets help prevent head injury, one should not use a children's video that depicts people riding bicycles without helmets.

View with skepticism materials containing claims that sound too good to be true. Materials promoting unusual diets or health regimens should be verifiable—avoid those that do not include a bibliography of references that actually relate to the subject, cite resources other than the author, and provide background information detailed enough to verify claims.

Also consider content appropriateness to assure the material meets the needs and interests of the target audience. Guidelines are available to assist parents and teachers in dealing with sensitive subjects like HIV and AIDS, alcohol and other drugs, human sexuality, depression, and suicide (see Kerr, Allensworth, & Gayle, 1991; Centers for Disease Control and Prevention, 1988).

Health content must be current. Some

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information does not change over time (e.g., milk and dairy products contain calcium). However, information such as child safety has changed dramatically in the last decade. Wearing helmets and other protective gear when bike riding or roller blading is not only recommended, but, in some states, required. To judge whether health materials are current, look at the copyright date, which indicates date of publication. Because the health information knowledge base changes rapidly, some health materials are outdated in one to three years. However, as with accuracy, one should review health materials to determine if they adhere to current recommendations in child health, safety, and education.

After identifying several health resources that seem appropriate, reliable, and current, there are experts in the community that a person can consult to answer questions and/or clarify information. Health educators at local universities, hospitals, or health departments; pediatricians, dentists, or nurses; or staff of national health organizations that have local chapters, such as American Heart Association and American Cancer Society, are often willing to share their expertise.

Choosing Format. Teachers need health education materials that are easily integrated into their classroom routine and curriculum, are culturally relevant, and adapt easily for students with special needs. Children's literature is an effective medium for teaching health concepts and Miller, Telljohann, and Symons (1996) suggest such with themes related to self-esteem, personal health, safety education, alcohol and other drug prevention, nutrition, environmental health, aging, death, HIV/AIDS, and sexuality.

First-rate children's health resources are of utmost importance to parents, teachers, and anyone who cares about the well-being of children. Through teaching children about health and by helping them to experience physical, mental, and social well-being, parents and teachers can wisely invest in the nation's future.

Professional Organizations and National Organizations/Agencies

- *American Academy of Pediatrics* (AAP), 141 Northwest Point Blvd, Elk Grove Village, IL 60007; (847) 228-5005; (http://www.aap.org).
- *American Association for Health Education* (AAHE), 1900 Association Drive, Reston, VA 20191-1599; (703) 476-3437; (800) 213-7193; (http://www.aahperd.org/aahe/aahe.html).
- *American Cancer Society*, (800) ACS-2345; (offices in every state); (http://www.cancer.org).
- *American Heart Association*,(800) 242-1793; (offices in every state); (http://www.amhrt.org).
- *American School Health Association* (ASHA), PO Box 708, Kent, OH 44240-0708; (330) 678-1601.
- *Children's Safety Network*, Education Development Center, Inc., 55 Chapel Street, Newton, MA 02158; (617) 969-7101 x. 2207; (http://www.edc.org/HHD/csn/).
- *Dole Food Company, Inc.*, 155 Bovet, Suite 476, San Mateo, CA 94402; (415) 570-4378; (http://www.dole5aday.com).
- *Food and Nutrition Information Center*, USDA, National Agricultural Library, Room 304, 10301 Baltimore Avenue, Beltsville, MD 20705; (301) 504-5719; (http://www.nal.usda.gov/fnic).
- *healthfinder*™, U.S. Department of Health and Human Services gateway to federal health informationonline (http://www.healthfinder.gov).
- *Healthy CHILDcare Magazine*, Healthy Child Publications, P.O. Box 624, Harbor Springs, MI 49740.
- *National Association for the Education of Young Children* (NAEYC), 1509 16th Street, NW, Washington, DC 20036-1426; (202) 232-8777; (800) 424-2460; (http://www.naeyc.org/naeyc).
- *National Dairy Council*, 10255 W. Higgins Rd, Suite 900, Rosemont, IL 60018-5616; (708) 803-2000; (800) 426-8271.
- *National Fire Protection Association*, 1 Batterymarch Park, Quincy, MA 02269; (617) 770-3000; (800) 344-3555; (http://www.nfpa.org/).
- *National Parent Information Network*, ERIC Clearinghouse on Elementary and Early Childhood Education, University of Illinois, 51 Gerty Dr., Urbana, IL 61801; (217) 333-1386; (800) 583-4135; (http://ousd.k12.ca.us/netday/links/Partnerships/npinhome.html).
- *National Safe Kids Campaign*, 1301 Pennsylvania Avenue, Suite 1000, Washington, DC 20004; (202) 662-0600; (http://www.safekids.org/).
- *National Safety Council*, 1121 Spring Lake Drive, Itasca, IL 60143; (630) 285-1121; (http://www.nsc.org/index.htm).

Internet Sites for Health Learning Resources

- *The Awesome Library* (http://www.neat-schoolhouse.org/health.html)
- *Blue Web'n* (www.kn.pacbell.com/wired/bluewebn/#table)

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Marilyn S. Massey, Texas Tech University (Author)
Charlotte M. Hendricks, JCCEO Head Start, Birmingham, AL (Author)
Mary E. Dilworth, Director
Liane M. Summerfield, Associate Director, HPERD Division

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IMPROVING SCHOOL VIOLENCE PREVENTION PROGRAMS THROUGH MEANINGFUL EVALUATION

Creating a school environment that is free of violence and drugs has become a public priority. Over time, the approach taken by schools to prevent violence evolved from quick fix interventions to social control strategies to sophisticated, multi-faceted, and long-term programs.The evolution occurred partly because of necessity: the historical approaches have not worked very well; an increase in student diversity, coupled with overcrowding, is exacerbating tension in schools; and school violence is escalating.

There are now a great many different types of violence prevention programs. Some focus on working with individual children identified by teachers or peers as aggressive or at risk for school failure. Others combine a focus on individual and family risk by integrating school-based programs and work with parents and families, peers, or community members. Still other programs integrate an individual risk focus with attempts to change the school environment. Most strive both to increase student social competence and to reduce aggressive behavior.

Many prevention programs are demonstrating signs of success, although schools frequently developed them without evidence of their potential, since empirical data on effectiveness is lacking; collecting such information has not been considered a valid use of scarce resources. Now, in order to increase the probability of program success, schools are rethinking this position. Also, as communities struggle to support their schools with decreased budgets, the need for additional monies has increased. But funders will not provide resources for programs, violence prevention included, without quality evaluation data demonstrating their effectiveness and promise.

Determining what type of program, or combination of program components, is best for a particular school requires an assessment of the school's circumstances, student body, and resources. Assessments must continue as the program operates so that changes can be made to account for new developments and to improve outcomes. Such evaluation data can then be used to support requests for funding the program's continuation. This digest examines the role of evaluation in understanding what works in violence prevention, and offers some guidelines for conducting a basic evaluation of school-based violence prevention programs.

Need for Evaluation

Most violence prevention efforts represent thoughtful responses to the escalation of fear, violence, and disorganization in the schools. Most are also offered in the absence of any evidence of their effectiveness (Kazdin, 1993). The lack of outcome effectiveness data is one of the major reasons why Congress has restricted reduced funding for drug and violence prevention in schools to programs which have empirically demonstrated behavior changes (Modzeleski, 1996).

It is not that there is limited interest in determining the effectiveness of efforts to reduce school violence, but that there are often limited resources for doing so. A common observation from school administrators is that there is little justification for using scarce resources on evaluation when the funds could be spent on the provision of programs and services. How do you tell a parent that the fifth graders could not get a classroom program implemented because funds were needed for research? The answer is, in part, that schools will soon have no choice. In the face of consistently declining Federal support for safe school initiatives, schools will need to increase their appeals to alternative funding sources, such as businesses, families, and community foundations. These potential funders have begun to demand clear evidence that programs are effective, efficient, and cost beneficial. No longer will schools and other organizations receive "entitlement" money to implement programs at their discretion, independent of whether there exists evidence of the program's effectiveness at their own site. Even the U.S. Department of Education has recently demanded objective outcome evaluation data for the Title IV Safe Schools money allocation.

There is, though, limited knowledge of what works best to reduce violence at school, and why, as well as limited energy to sustain long-term efforts to effect positive change. One way to gain knowledge and to implement strategies known to be effective, efficient, and cost beneficial is to implement only violence prevention strategies that have been empirically validated with thorough evaluations of program effectiveness. To do this, it is necessary to understand the role and importance of evaluation research in reducing school violence. Evaluation can inform effective implementation of a program; enable a school to demonstrate the value of the program to the community, to parents, and to potential funders; and influence the formation and implementation of social policy, both locally and nationally. This is not to say that evaluation is easy to do, cheap, or a magical panacea.

Types of Evaluation

In any intervention program, the three most basic questions asked are: (1) What are the program's results and what does it change? (2) What program qualities make it work or be effective? and (3) Is the program cost effective? Four basic types of evaluation can be integrated into the existing structure of most schools and programs to address these questions. They are needs assessment, outcome evaluation, process or monitoring evaluation, and cost-benefit analysis.

Needs Assessment

A needs assessment (or formative evaluation) helps a school determine its needs regarding violence reduction and prevention. Many schools might skip this first type of evaluation, believing that knowing they need to do something to reduce violence is sufficient. However, asking several questions first might help a school develop a more effective long-term strategy. For example:

What is the nature and prevalence of violence and victimization at the school or in the neighborhood? Considering school violence as behavior occurring along a continuum from aggression to violence is important because limiting the focus to serious acts of violence (those resulting in suspensions or detentions) does not fully capture the nature and extent of school crime and victimization (Hanke, 1996). While people are disturbed by increasing rates of school-based homicides, these occurrences constitute a relatively small proportion of incidents at school compared to property crimes, acts of assault or extortion, and threats of physical harm.

What is the impact of violence on child adjustment and mental health and learning? Exposure to violence is not without consequence: 50 percent of children exposed to trauma under age 10 develop psychiatric problems later in life, including increased rates of anxiety and depression. Children exposed to chronic violence are also more likely to form disorganized attachments to caregivers and other adults. They may also experience difficulty in developing a healthy sense of initiative, normal physical patterns, and intellectual development; and a sense of independence, efficacy, and mastery of their environment. One of the most disturbing admissions from violent adolescents is that, because they have little hope of living very long, they are driven by a need for immediate gratification,laced with a sense of hopelessness about their future (Eron, Gentry, & Schlegel, 1993; Osofsky, 1997).

What are the precursors of youth violence which affect the students in this school? In general, there are six categories of risk:

(1) Perinatal risk and temperament, such as birth complications (e.g., breech delivery, preeclampsia, oxygen deprivation due to long delivery duration) when accompanied by early maternal rejection; and a child temperament characterized by impulsivity, high activity levels, inflexibility, difficulty with transitions, and easy frustration and distraction (Brier, 1995).

(2) Limited intelligence, particularly verbal intelligence; low school achievement and lack of attachment to school; poor problem-solving and social skills; and a tendency to make cognitive misattributions and to have impaired social judgment (Moffitt, 1993; Lochman & Dodge, 1994).

(3) The early onset and stability of aggressive, antisocial behavior, beginning even at the kindergarten level (Loeber & Hay, 1994).

(4) Poor parenting, including maltreatment and abuse; neglect; rejection; frequent and harsh, but inconsistent and ineffective, punishment; parental criminal behavior, and living in a climate of hostility (Patterson & Yoerger, 1993).

(5) Exposure to violence, and victimization by violence, in school, community, or home (Widom, 1991; Singer, Anglin, Song, & Lunghofer, 1995).

(6) High exposure to violence in the media, which can cause acceptance and emulation of aggression; desensitization to violence and its consequences; and development of a "mean world syndrome," which increases fear of victimization and a felt need to protect oneself and mistrust others (Centerwall, 1992).

Additional questions to be considered include: ***What are school costs for vandalism and discipline problems related to violence?*** and ***What is the extent of gang activity at school?*** Answering all of these questions will help a school choose appropriate components for its safety plan: does the plan need to include the installation of metal detectors and surveillance cameras, does it need to focus on developing prosocial competence in the youngest students, or both? Obviously a high school will have safety concerns different from an elementary or middle school, so the same safety plan will not be equally effective in all schools, in all contexts, and for all children.

Outcome Evaluation

The second type of evaluation is called outcome evaluation. It answers the question "what changed because of the intervention?" Did the program reduce the children's problem behavior, aggression, delinquency, or violence? Did the program increase student attendance and improve school grades? Did it result in reduced discipline visits to the principal's office? Did it result in increased social competence or improved social skills? All of these are appropriate outcome evaluation questions. Being clear about what the program is meant to address (and not address) is essential to measuring its effectiveness. Some popular programs may be effective in changing some problem behaviors, but may not result in decreased student violence. For example, a substance abuse prevention program may do little to reduce victimization by violence or the perpetration of violence, and teen pregnancy reduction is an important outcome, but it is not violence prevention.

Certainly some of the factors that underlie most problem behaviors in children are shared by intervention strategies: improving problem-solving and conflict resolution skills, increasing attachment to school and success at school, improving communication and social skills, etc. These are valuable targets of intervention for most students in most schools. If they are the focus of the violence prevention intervention, they must be clearly explicated. The reasons why these are the outcomes and how they relate to reductions in aggressive behavior, conflict, or violence must also be clearly stated. This requires a clear understanding of the risk factors the school is attempting to ameliorate or the protective factors it is trying to promote. Clearly defining program goals and desired outcomes will go a long way toward establishing relevant and effective outcome assessments of the program's suc-

cess and will help to identify possible limitations.

Process Evaluation

The third type of evaluation is a process evaluation. Process evaluation attempts to address the question "what works best about our program and why does it work?" Is program effectiveness related to quality of teacher or staff training, the number of years an individual has been teaching, strong administration support for the program, scope of the program (i.e., schoolwide or confined to lessons in one classroom), or active parent involvement in program implementation and support? For example, Flannery and Torquati (1993), in an examination of a middle school substance abuse prevention program, found that teachers believed that parent involvement as volunteers in the classroom was the biggest factor in determining the program's success for students—more important than administrative support, quality of teacher training, and even than the teacher's own "buy in" of the program's importance and effectiveness.

Cost-Benefit Analysis

The last type of basic evaluation is cost-benefit analysis. A cost-benefit evaluation answers the question "is the program cost effective?" It might include an assessment of how much the program costs to implement per student or school, or how much the program saves in other related costs (e.g., vandalism). One of the most intriguing and comprehensive cost-benefit evaluations was conducted recently by the RAND Corporation. Greenwood, Model, Rydell, and Chiesa (1996) examined the cost effectiveness of several crime prevention strategies involving early intervention in the lives of people at risk for pursuing a criminal career. Focusing on California, they contrasted the state's *Three Strikes* policy that mandates extended sentences for repeat offenders with four different approaches: (1) home visits by childcare professionals, beginning before birth and extending through the first two years of childhood, followed by four years of daycare; (2) parent training for families with aggressive or acting out children; (3) four years of cash and other graduation incentives for disadvantaged high school students; and (4) monitoring and supervising high school youth who had already exhibited delinquent behavior. All of the examined programs, with the exception of home visits and daycare, were appreciably more cost effective at reducing serious crimes than was the Three Strikes policy. Graduation incentives for disadvantaged youth proved the most cost-effective approach, averting nearly $260 million lost from serious crimes compared to about $60 million for the Three Strikes option. These findings have serious implications for policy makers who believe that increased incarceration time for juvenile offenders will systematically and over time reduce the youth crime rate.

Evaluation Methods

There are many techniques that schools can utilize as part of an evaluation strategy. Many different kinds of information are readily available to schools for low cost and effort. Potential sources of information include self-reports by the students, teachers, parents, and principals. Student reports about violence and victimization will be increasingly difficult to gather, however, given the increased attention to the protection of human subjects, particularly minors, in behavioral and medical research; research may still be conducted on these important topics, but the days of large surveys with thousands of students may be past.

Most schools also collect archival data as part of their everyday operations (attendance, grades, conduct ratings on report cards, disciplinary contacts, suspension, weapons violations, visits to the nurse's office for treatment of injury, costs to repair vandalism and property destruction). Some additional archival data could also be collected that is not currently systematically recorded in most schools. These include visits to the principal's office for disciplinary action, and observational ratings of aggressive behavior in the classroom, lunchroom, and on the playground. These measures are two of the most accurate predictors of which young children are at increased risk for subsequent delinquent behavior and arrest for criminal activity as adolescents (Walker, Colvin, & Ramsey, 1995). Schools may also partner with local police or sheriff's departments to gather aggregate data on community crime and the nature or types of contacts children from their school have with the police. Of course, police officers should only report to schools substantial incidents of problem behavior, not random stops or checks of youth which do not result in any official action.

What should be the strategy for collecting this information on program effectiveness? There are three basic components to any evaluation that will make the results more readily interpretable and valid. The first is ***collection of outcome data before the intervention is implemented***. This information provides the school with a baseline of student behavior, grades, attendance, etc., from which change can later be determined. Report cards from previous grading periods constitute one example.

The second is***assessment, whenever possible, of a comparison group of students (or classrooms or schools) not exposed to the intervention***. A comparison group (preferably very similar to the students in the intervention with respect to gender, age, risk status, etc.) will allow a determination of whether and how the intervention is effective for children in the program as opposed to those not in the program.

For example, assume a school identifies 50 third graders at risk for school failure and delinquency. It collects baseline information on these students and then exposes them to an intensive 25-week curriculum aimed at improving their problem-solving and social skills and their academic achievement, and reducing their aggressive behavior. The school then collects information on the students immediately after the curriculum is finished. It finds that, indeed, these students are better problem solvers and are less aggressive. Unfortunately, the design does not provide a clear answer to an essential question: how does the school know that the observed changes resulted from the curriculum? Could it be that third graders, simply because they have matured over time, have better social skills and are less aggressive over a 25-week period?

Conversely, some programs that have been evaluated did not show significant reductions in aggressive behavior among some children, and the initial belief about them was that the programs were ineffective. It was not until recently that researchers began to demonstrate that many children experience increases in aggressive behavior over time. Thus, even if a program does not result in an appre-

ciable decline in aggression, it may have a "blunting" effect in that participants do not experience the expected increase in aggression (Tolan, Guerra, & Kendall, 1995). Assessments of comparison groups of students not participating in violence prevention programs contributed to this realization.

The third component of an effective evaluation design is ***random assignment of students to treatment groups or controls***. This is the most difficult, practically and ethically, to achieve, and may not be possible in most "real world" situations. Random assignment of two equally deserving children, with similar assessments of both children, provides the strongest evidence that it was the treatment that caused any observed differences in a child's outcome. One strategy that has been used successfully is random assignment of students (or classrooms or schools) to treatment or control groups at the beginning of an evaluation, with eventual provision of the same treatment to the controls. This is easier to do if the unit of analysis is the school or classroom rather than the individual. If a whole school is in a comparison group, then all students in the school still receive the same services and attention that they always have. If the control is an individual student, it is harder to justify withholding treatment. This is especially true when the treatment may address a very serious, immediate, and potentially dangerous problem like violence.

Conclusion

The point of evaluating a violence prevention program is to assess and improve its effectiveness. The goal, of course, is a school that has high expectations for student achievement and behavior and fosters their realization, promotes respect for diversity, and is safe. While different prevention needs require use of different interventions, those shown to be universally successful:

- are instituted early, and are developmentally appropriate, comprehensive, and long-term;
- develop student social competence;
- improve the school climate through good organization, and increased student, staff, and parent attachment and participation;
- take into account the impact of violence and victimization by violence;
- integrate violence-related issues into teacher training; and
- have a comprehensive evaluation program.

—Daniel J. Flannery,
Kent State University and
University Hospitals of Cleveland

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ERIC Clearinghouse on Urban Education, Institute for Urban and Minority Education, Box 40, Teachers College, Columbia University, New York, NY 10027, (800) 601-4868. Erwin Flaxman, Director. Wendy Schwartz, Managing Editor.

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Outdoor Education and the Development of Civic Responsibility

by Judith A. Boss

Recently commentators have mourned the "disappearance of civic America," saying we are becoming a nation of civic couch potatoes (Tyack, 1997). Surveys suggest voters know little about what their legislators are doing (Harris, 1997). Other observers point out the importance of strong civic involvement for creating conditions—sometimes referred to as *social capital*—that support vital community life and thriving economies (Coleman, 1988; Putnam, 1993). This type of involvement includes participation in government, associations (for example, charitable, religious, athletic, environmental, or arts), and community and economic development. For students to grow into fully participating citizens, they need to find their place in this web of community life, and understand both the benefits and responsibilities of being part of it.

This Digest suggests how outdoor education and experiential learning can develop such understandings in students, and set them on a path of strong participation and civic responsibility.

Outdoor Education and Experiential Learning

Harvard educational psychologist Howard Gardner has found that scholastic knowledge "seems strictly bound to school settings" (1991, p. 122), while outdoor education fosters "connected knowing," where education is part of, rather than separate from, life. Unlike classroom learning, outdoor education uses the student's whole environment as a source of knowledge. The community, rather than the classroom, is the context of learning.

Outdoor education includes more than studies of nature, although learning about the environment is certainly an important aspect of this educational tradition. It encompasses the use of the outdoor environment—whether natural or man-made—to promote learning from experience and enrichment of nearly any subject in the curriculum. One of the originators of this approach to education, John Dewey (1938), envisioned the school as a miniature democratic society, with experiential learning as an essential component of civics education. Students prepare for adult civic responsibility by practicing it in the world around them. In outdoor education, students learn how to identify problems as well as how to work with government and civic groups in formulating and implementing solutions. Students become active participants in the democratic process, rather than simply passive observers.

Experiential learning has continued to gain advocates over the decades. Basically, it is learning by doing. Many recent innovations have strong ties to experiential learning: hands-on or active learning, cooperative learning, work-based learning, and service learning are examples. Through such experiences, students can learn mathematics, science, social and technology skills, and civics, among many other disciplines (Knapp, 1996).

Three Outdoor Education Approaches

This Digest focuses on three principal types of outdoor education commonly used to nurture civic responsibility in students: adventure education, cultural journalism and participatory research, and service learning. A resource list at the end of this Digest provides contact information for several organizations that can provide resources for interested educators and youth leaders.

Adventure education. Adventure education usually takes place outdoors, often in wilderness areas, and aims to teach environmental awareness and build self-confidence through activities that include a certain amount of stress or risk—such as rock climbing, ropes courses, and other carefully planned activities. Teachers or other adults interested in this approach require intensive training, usually involving special certification.

Perhaps the best known organization practicing adventure education is Outward Bound. A meta-analysis of 96 studies published between 1968 and 1994 concludes that Outward Bound programs stimulate the development of interpersonal competencies, enhance leadership skills, and have positive effects on adolescents' senses of empowerment, self-control, independence, self-understanding, assertiveness, and decision-making skills (Hattie, Marsh, Neill, & Richards, 1997). These are important findings given that low participation in civic life often occurs because citizens feel powerless to bring about changes.

Outward Bound instructor Randolph DeLay discovered that most new teen participants in his program "conceived of nature as a place undisturbed, unfamiliar, 'out there,' with few or no people, and without human-made things. Therefore, in these teens' minds there was no nature at home and therefore no real reason to care for the environment outside of the wilderness" (1996, p. 79). Outdoor education nurtures a respect for our connectedness with nature and the wider community. This connectedness flows over into an awareness of our relatedness to others in the community (Fouhey & Saltmarsh, 1996).

Cultural journalism and participatory research. While adventure education programs can help youth discover their individual strengths and capacity for leadership, and connection to nature and community, this second approach helps students understand the place where they live, and their connections through relatives and friends to others in the community—past, present, and future. Cultural journalism can help students become part of a "community of memory," a group of people who live willingly—though not necessarily unquestioningly—within the protection of collective traditions (Bellah, Madsen, Sullivan, Swidler, & Tipton, 1985). In a society that promotes individualism in countless ways, understanding the value of certain civic traditions can provide the basis for cooperation and mutual support.

Perhaps the best-known example of this approach was Foxfire, in which student research in the community eventually produced a best-selling magazine and series of books. This approach to history and education, as explained by Tierney (1992), has deep roots in genealogical societies, local history commemorative pamphlets, testimonies collected by abolitionists, and the various projects, slave narratives, state guides, and folklore studies of the Works Progress Administration during the New Deal. (p. 25)

Participatory research is closely related, but tends to

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P.O. Box 1348
Charleston, WV
25325-1348

involve more contemporary issues. Put simply, it is research conducted by people who are affected by an issue, problem, or concern. For students, this could involve (1) group discussion to define an issue and identify expertise in the group or community, (2) public meetings to involve community members in the research, (3) research teams to share responsibility for the research, (4) open-ended surveys to gather information about how a wider range of people view the issue, (5) community seminars for focused discussion, (6) fact-finding tours to various parts of the community or other communities, and (7) communicating the newly gathered information (Participatory Research Network, 1982; Tierney, 1992). The Highlander Center has offered training to community leaders in this approach for many decades.

This form of outdoor education helps develop a sense of justice, which is essential to civic responsibility. For example, Whatcom Middle School, Western Washington State University, and Washington State Campus Compact collaborated to create an eighth-grade curriculum on environmental facets of watershed conservation and civic responsibilities inherent in environmental stewardship. The project prompted students to become politically involved in protecting and maintaining a local stream and fish hatchery threatened by industrial pollution.

Activism springing from such projects may include writing letters, volunteering in a community organization, or talking to others about environmental justice. A study of environmentalists, such as John Muir, Rachel Carson, and Aldo Leopold, can provide role models. This sort of experiential learning helps students respond effectively to problems by providing opportunities for them to apply their knowledge in real-life situations. Awareness of environmental or other issues without knowledge of how to bring about positive changes may leave students feeling frustrated and powerless. Students with opportunities to participate directly in the democratic process feel more politically effective than most adults (Center for Civic Education, 1994). By their participation, students learn which government and private agencies are interested in environmental issues and what resources they offer. Once they understand these mechanisms in one arena–such as protection of the environment–they are better prepared to engage in other areas of civic problem solving.

Service learning. Civic responsibility also entails a willingness to engage in community service, as well as political activism. Service learning is one form of outdoor education that has been well developed over the past decade, with a number of organizations offering resources. Proponents of service learning report benefits to schools, communities, and young people. Schools enjoy increased community support and closer working relationships with parents of participating students. Communities benefit directly from the various services provided by students, and indirectly because students gain a sense of civic efficacy, and the attitude that they should, can, and will have an impact on civic affairs. Students find a sense of meaning in education when they examine firsthand the community social problems, or when they participate in projects to address problems (Garman, 1995).

Components of successful service learning programs include (1) clearly articulated goals that stand a reasonable chance of being accomplished, (2) projects of real consequence to the community, (3) student tasks involving real responsibility and trust, (4) initial and ongoing involvement of community members in setting directions for the project, (5) support of the community, (6) initial and ongoing involvement of students in selecting and designing the project, (7) developmental appropriateness, (8) tangible results, and (9) clear connections to classroom learning (Garman, 1995).

Service learning projects can be completed in a day or over the long term. Projects such as a community garden or cleanup can be done on or near the school grounds. Following are examples of outdoor education programs:

The Stream Bank Initiative is a collaborative project by schools in South Royalton, Vermont. Twenty middle and high school students planted trees and grass along an 800-foot stretch of streambed to stabilize erosion and provide a buffer between the river and a town recreation area. Local, private, state, and federal contributors funded the project (Stine, 1997).

At Rosemead High School, in California, 40 high school students collaborated with 8 landscape architecture students and faculty to study and replant an area around the school that had been paved to save maintenance costs. Students learned about the importance of trees and plants in filtering polluted air and preventing erosion (Stine, 1997).

Conclusion: Recommendations for Future Directions

Outdoor education can be an effective bridge to civic participation. But efforts to involve students in experiential learning in all its forms require planning and skill on the part of educators. Fortunately, a growing body of literature and organizations stand by ready to assist.

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Resources

Association for Experiential Education. 2305 Canyon Boulevard, Suite 100, Boulder, CO 80302; http://www.aee.org/

Center for Civic Education. 5146 Douglas Fir Road, Calabasas, CA 91302-1467; http://www.civiced.org/

Foxfire Fund, Inc. P.O. Box 541, Mountain City, GA 30562-05411; telephone 706-746-5828; http://www.foxfire.org

Highlander Research and Education Center. Route 3, Box 370, New Market, TN 37820; telephone (615) 933-3443; E-mail hrec@igc.apc.org

Outward Bound USA. 384 Field Point Road, Greenwich, CT 06830; http://209.115.22.205/

Judith A. Boss is a philosopher, writer, and visiting scholar at the Center for the Study of Human Development, Education Department at Brown University.

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96
8

Promoting Physical Activity and Exercise among Children

Liane M. Summerfield

ntroduction

Physical inactivity has become a serious problem in the United States. More than half of U.S. adults do not meet recommended levels of moderate physical activity, and one-fourth engage in no leisure time physical activity at all (*Physical Activity*, 1996). Inactivity is more prevalent among those with lower income and education, and, beginning in adolescence, affects females more than males (NIH, 1995; *Physical Activity*, 1996). A pattern of inactivity, also known as sedentism, begins early in life, making the promotion of physical activity among children imperative. This Digest discusses the importance of and ways to foster activity and exercise in children.

Why Is Physical Activity Important?

Physical activity has been defined as "bodily movement produced by skeletal muscles that results in energy expenditure" (Pate, Pratt et al., 1995). There is no debate about the value of physical exertion–regular physical activity has significant health benefits, and even modest increases in energy expenditure can have health-enhancing effects, including:

- Reduction in chronic disease risk–hypertension, type 2 diabetes, high blood lipids, cardiovascular disease, and obesity. Even among children and adolescents, physical activity can prevent or delay the development of hypertension and can reduce blood pressure in those young people who already have hypertension (*Physical Activity*, 1996);
- Lowered risk of colon cancer;
- Increase in bone density;
- Reduction of anxiety, improvement in body image and mood;
- Development of physical fitness;
- Promotion of weight control through caloric expenditure. This benefit is of particular importance to children, who are experiencing the same epidemic of overweight as adults.

Childhood Obesity: A Cause for Concern

More children today are overweight or obese than ever before. Overweight means that the individual weighs more than is recommended for a given height; when this excess weight is in the form of fat, health problems may develop. Obesity is an excess of body fat. In children obesity has been variously defined as

- $\geq$20% over the recommended weight for height;
- $\geq$85th percentile for Body Mass Index, which is calculated by dividing weight in kg by height in m^2; or
- $\geq$25% of weight as fat for boys and $\geq$ 30% of weight as fat for girls (*Strategy Development*, 1996).

When the percent fat definition is used, data indicate that 11% of 6-11 year olds and 14% of 12-17 year olds are obese (*Strategy Development*, 1996), double the prevalence of 30 years ago (CDC, 1996). This is of particular concern because body weight and overfatness in children are significant cardiovascular disease risk factors, and the risk tracks into adolescence and young adulthood if not checked in childhood. In addition, obese children often experience exclusion from social groups and low self-esteem.

Particularly detrimental to health is central (abdominal) body fat, which is linked to cardiovascular disease and diabetes. Studies examining the relationship between physical activity and abdominal fat suggest that those who are more active are less likely to deposit fat in the abdominal area (NIH, 1995). Physical activity is thus a key element in the prevention and treatment of both chronic disease and obesity.

How Much Physical Activity Is Enough?

Health benefits can be derived simply from becoming more physically active, but the greatest benefits come from engaging in planned and structured exercise. Cardiovascular risk factors can be reduced and physical fitness enhanced with low to moderate levels of physical activity (40-60% of a person's maximal aerobic capacity) (Blair & Connelly, 1996). And, low- to moderate-intensity activity is less likely than vigorous exercise to cause musculoskeletal injury and sudden heart attack death during exercise (a very rare occurrence even for vigorous exercisers), while it is more likely to promote continued adherence to activity (Blair & Connelly, 1996; NIH, 1995).

Current recommendations state that children and adults should strive for at least 30 minutes daily of moderate intensity physical activity (Pate, Pratt et al., 1995). An alternate approach that may be equally beneficial would be to engage in 5- (Blair & Connelly, 1996) to 10-minute (NIH, 1995) bouts of moderate intensity activity throughout the day, for a total accumulation of at least 30 minutes for adolescents and adults and 60 minutes for children (Pangrazi, Corbin, & Welk, 1996). Walking briskly or biking for pleasure or transportation, swimming, engaging in sports and games, participating in physical education, and doing tasks in the home and garden may all contribute to accumulated physical activity.

Children and adults who already engage in regular activity may benefit from more vigorous activity. The specific amount of energy expenditure needed by children to decrease their risk of cardiovascular disease is not known; for adults, approximately 3 kcals/kg of body weight/day has been recommended (Zwiren, 1993). Weight in pounds can be converted to kg by dividing by 2.2. Thus, a 140-pound person (140/2.2 = 63.6 kg) should expend about 192 kcals/day (63.6 X 3).

How Can We Promote Physical Activity among Young People?

Quality Daily Physical Education

In addition to being physically active, children need to learn fundamental motor skills and develop health related physical fitness (cardiovascular endurance, muscular strength and endurance, flexibility, and body composition). Physical education, provided at school, is an ideal way to encourage activity and develop fitness among children and, for many children, will be their only preparation for an active lifestyle. For this reason, the Centers for Disease Control and Prevention (CDC), the National Association for Sport and Physical Education (NASPE), and the American Heart

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Association all recommend comprehensive daily physical education for children K-12.

Over the years, state requirements for daily physical education have eroded, and today no states currently have such a requirement (*Healthy People*, 1995). Not surprisingly, only a quarter of high school students participate in daily physical education, and only 19% of high school students are active for at least 20 minutes a day during physical education class (*Physical Activity*, 1996). The recent School Health Policies and Programs Study (SHPPS), conducted by CDC, determined that just 47% of middle/junior high schools and 26% of high schools require at least 3 years of physical education (Pate, Small et al., 1995).

Physical education offers many benefits: development of motor skills needed for enjoyable participation in physical activities; promotion of physical fitness; increased energy expenditure; and promotion of positive attitudes toward an active lifestyle. Evidence also exists that physical education may enhance academic performance, self-concept, and mental health (Allensworth, Lawson, Nicholson, & Wyche, 1997).

Other Ways to Incorporate Activity into Schools

In addition to physical education, schools can promote physical activity in a variety of other ways (much of this is based on CDC, 1997):

- Promote collaboration between physical education and classroom teachers. For example, physical education teachers might provide ideas for "fitness breaks" to classroom teachers, where 5-minute aerobic activities could be used to break up the school day.
- Provide extracurricular physical activity programs. Interested teachers and parents might be encouraged to establish developmentally appropriate clubs and/or intramural activities of a competitive and noncompetitive nature. Walking clubs, in-line skating, jumping rope, water aerobics, and intramural swim teams provide a few examples.
- Coordinate physical activities with community agencies. Schools might allow use of school facilities by community agencies that sponsor physical activity programs, facilitate training programs for volunteer youth coaches, invite community groups to an "activity fair" for students in the school gymnasium, or provide a listing of community physical activity resources to students.
- Encourage and enable parental involvement in physical activity. Parental activity level is very important in promoting activity among children. Schools can help encourage activity in parents by sending home activity homework that parents and children do together, recruiting parent volunteers for physical education classes, and sponsoring parent-child activity programs at school.
- Provide physical and social environments that encourage and enable physical activity. For example, schools might allow access to facilities before and after school hours and during vacation periods, encourage teachers to provide time for unstructured physical activity during recess and during physical education class, and help school personnel to serve as active role models by enabling and encouraging their own participation in physical activity.

Conclusion

Inactive adults have twice the mortality of adults who are at least somewhat active (Blair & Connelly, 1996). Schools that promote physical activity may have a significant impact on reducing childhood obesity, chronic disease, and, ultimately, adult mortality. Insofar as physical activity has been associated with increased academic performance, self-concept, mood, and mental health, the promotion of physical activity and exercise may also improve quality of life.

Resources

American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231. *http://www.amhrt.org/*

Center for Research on Girls and Women in Sport, University of Minnesota, 203 Cooke Hall, 1900 University avenue, S.E., Minneapolis, MN 55455. (612) 625-7327. *http://www.kls.coled.umn.edu/crgws/*.

National Association for Sport and Physical Education (NASPE), 1900 Association Drive, Reston, VA 20191; (703) 476-3410. *http://www.naspe@aahperd.org*

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Mary E. Dilworth, Director
Liane M. Summerfield, Associate Director, HPERD Division; Marymount University

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97
2

Promoting Stress Management: The Role of Comprehensive School Health Programs

Marilyn S. Massey

Introduction

Stress has been defined as, "the inability to cope with a perceived or real (or imagined) threat to one's mental, physical, emotional, and spiritual wellbeing [sic] which results in a series of physiological responses and adaptations" (Seaward, 1997, p. 5). In addition to responding physiologically, people may respond cognitively and emotionally to stress. Studies indicate that 70-80% of all disease and illness is stress-related (Seaward, 1997).

Stress affects each of the five dimensions of health: physical, mental, emotional, social, and spiritual. Examples of "distressors" (negative stressors) that children and adolescents may confront within these dimensions include: illness, injury, inadequate nutrition, and low levels of physical fitness (physical dimension); pressures to excel in academic and extracurricular activities, depression, and anxiety (mental/emotional dimension); relational issues, peer pressure, and dysfunctional family lives (social dimension); and inability to find purpose in life or to understand how individual lives contribute to a much larger and grander universe (spiritual dimension).

Rather than how much stress individuals experience, the critical issue seems to be how they perceive stress and respond to it. Seaward (1997) points out that coping with stress is an ongoing process. Therefore, it is critical that children and adolescents are given opportunities to develop life skills that will help them effectively cope with daily stressors, major life events, and change. The purpose of this Digest is to examine how comprehensive school health programs may promote stress management.

The Comprehensive School Health Program (CSHP)

A recently conceptualized model (Allensworth, Lawson, Nicholson, & Wyche, 1997) describes four key elements of CSHPs: community participation and focus, school environment, education, and services. Each of these areas is linked to enhance the well-being of the entire school and community. Examples of how stress management can be promoted through these components follow.

Community Participation and Focus

School health efforts must be coordinated with the community at large. There are numerous ways in which stress management strategies can involve families and communities:

- School health newsletters sent home and to community agencies may include health facts, tips, family activity ideas, and resources for further information on a particular health topic, such as time management.
- The Family Involvement Calendar (Birch, 1994) includes ideas for family participation in health activities that reinforce a specific health topic or unit that is being studied at school.
- Health fairs and community nights that include enjoyable educational activities can be held at the school (National PTA, 1997; Valentine, 1997); community groups can be involved in program planning and delivery.
- Local newspapers, radio, and television stations can promote wellness activities including poster and/or writing contests for different age groups focussing on the importance of stress management. Prizes may be donated by local businesses, and winning posters and/or writings can be displayed within the school or community (e.g., supermarkets).
- Guest speakers from the community can address various stress management issues at student and staff health promotion programs.

School Environment

The school environment includes the physical setting as well as the policy and administrative environment, psychosocial environment, and health promotion for staff. Physical conditions that play a role in stress and the overall learning process include school size, lighting, temperature and ventilation, noise control, crowding, sanitation and cleanliness, and accessibility. The teacher's personality and behavior, respect for diversity and individual differences, and effective classroom management play a role in helping to ensure that students feel a sense of belonging, security, and trust. A nurturing emotional environment is especially important for those children and youth whose families exhibit behaviors such as abuse and neglect, violence, and alcohol and other drug abuse. School safety is directly associated with the stress experienced by students, teachers, and parents. Important areas that should be considered regarding safety and injury prevention include playground safety, violence prevention, conflict resolution, procedures for emergencies and disasters, and promotion of smoke- and drug-free schools.

It is critical that teachers and other school staff possess emotional wellness in order to manage their own lives as well as the lives of the children within their circle of influence. According to Pransky (1991), teachers who have participated in school health promotion programs report decreased absenteeism, enhanced morale, improvement in the quality of their teaching, enriched attitudes about their personal health, and a sense of well-being. Moreover, healthy teachers and staff serve as positive role models for children and their families. A staff wellness program might include instruction in relaxation techniques, diet planning, communication skills, smoking cessation, and incentives for lifestyle improvements, such as lower health insurance rates, bonus checks, and free or reduced-cost health club memberships.

Education

Various curricular areas offer practical opportunities to promote stress management (Gilbert & Orlick, 1996; De Wolfe & Saunders, 1995; Anderson & Haslam, 1994; Romano, 1992; Miller & McCormick, 1991). School-based life skills programs that focus on such strategies as relaxation, problem solving, and positive perspectives are successful in teaching children and

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adolescents how to control their stress (Gilbert & Orlick, 1996; De Wolfe & Saunders, 1995). Miller & McCormick (1991) offer excellent suggestions for teaching stress management and relaxation skills to preschool and elementary children. These strategies can be effectively implemented by physical educators, classroom teachers, and parents.

Curricular areas that offer opportunities for curriculum infusion include:

Health Education. Mental and emotional health is one of the 10 major content areas of health education, and stress management techniques can be taught as a part of this unit. Also, stress management can be addressed in other health content areas such as family living; nutrition; personal health; physical fitness; and tobacco, alcohol, and other drugs. Personal and social skills—decision making, problem solving, communication, conflict resolution, peer resistance, and goal setting—are essential in helping children to cope with stress. There are numerous skill-building activities that can be used in the classroom (see Bender, Neutens, Skonie-Hardin, & Sorochan, 1997; Miller, Telljohann, & Symons, 1996; Fetro, 1992).

Physical Education. Many of the health benefits derived from regular physical activity are directly related to stress management, including the reduction of depression and anxiety and the promotion of psychological well-being and improved vitality. Daily physical education provides students with multiple opportunities to engage in physical activity and to develop personal and social skills. Through quality physical education, students can learn various relaxation techniques (including the basics of deep breathing), acquire the knowledge and skills for participating in lifelong regular physical activity, develop self-discipline, learn how to cooperate with others, and have fun in the process.

Curriculum Infusion. There are other areas of the curriculum where stress management may be infused: language arts (children's literature, creative writing, journal writing); social studies (Eastern traditions of meditation, yoga, Tai Chi; learning to appreciate and value diversity; and learning to work cooperatively to solve problems); science (physiology of the stress response and relaxation response); and art and music (creative ways to relax and express thoughts and feelings).

Services

Children's health problems can cause distress and, if undetected and untreated, hinder both health and learning. School services that can help reduce children's stress include health services; counseling, psychological, and social services; nutrition and food services; and comprehensive family services. School services may provide needed medical treatments, teach effective management of health, serve as the primary source of nutrition (if necessary), and offer services that deal with a variety of mental and emotional health issues that may cause stress.

Conclusion

Schools play a vital role in stress management by assuring a healthy learning environment, providing services for stress reduction, enhancing student and staff knowledge and skills for coping with stress, and coordinating activities with families and communities. The Comprehensive School Health Program is an effective model for implementing stress management in schools and communities to enhance the well-being of children.

Resources

The American Institute of Stress, 124 Park Avenue, Yonkers, NY 10703; (914) 963-1200. http://www.stress.org

Mental Health Net; http://www.cmhc.com

North Carolina Cooperative Extension Service. Disaster Recovery: Children's Needs (includes information about recognizing stress in children and strategies for parents and teachers); http://www.ces.ncsu.edu/depts/fcs/humandev/disint.html

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Mary E. Dilworth, Director
Liane M. Summerfield, Associate Director, HPERD
Marilyn S. Massey, Texas Tech University (Author)

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Schools as Communities

Mark A. Royal and Robert J. Rossi

Increasingly, educators are paying serious attention to the quality of the relationships that exist among staff members and students in schools. The National Association of Secondary School Principals' recent publication *Breaking Ranks*, for instance, highlights "personalization" of the high school as a key challenge for school reform. Similarly, Ernest Boyer argued in *The Basic School* that fostering "community" in elementary schools is essential for effective schooling in the early grades.

Indeed, a good deal of evidence now exists suggesting that a strong sense of community in schools has benefits for both staff members and students and provides a necessary foundation for school improvement.

What Are the Elements of Community in Schools?

Although vague generalizations plague many discussions of community, a number of researchers have attempted to identify the fundamental attributes of healthy and vital school communities. For Anthony Bryk and Mary Driscoll (1988), the communally organized school is characterized by a system of shared values related to the school and to education in general; common activities that link school members to each other and to the school's traditions; and an "ethos of caring" in interpersonal relations, evidenced by collegial interactions among staff members and an extended role for teachers that encompasses more than classroom instruction.

Reflecting on successful alternative-school communities she has studied, Mary Anne Raywid (1993), by contrast, highlights six common attributes of these schools: respect, caring, inclusiveness, trust, empowerment, and commitment.

Our own framework for thinking about community in schools—developed in collaboration with John Gardner of Stanford University and refined through focus-group discussions with administrators, teachers, and students from local high schools—has much in common with both of these conceptualizations.

In our view, in a school community, communication is open, participation is widespread, teamwork is prevalent, and diversity is incorporated. Staff members and students share a vision for the future of the school, a common sense of purpose, and a common set of values. They care about, trust, and respect each other, and they recognize each other's efforts and accomplishments.

How Does School Community Affect Staff Members?

Research suggests that a strong sense of community can facilitate staff members' instructional efforts and enhance their personal well-being. Bryk and Driscoll, for instance, have found that in communally organized schools staff morale is higher, teacher absenteeism is lower, and teachers are more satisfied with their work.

In addition, we have provided evidence that staff members experiencing a strong sense of community tend to be clearer about the expectations others at school have for them and tend to report feeling burned out, overwhelmed, or confronted with conflicting demands less often at school (Royal and Rossi 1996).

A sense of community among staff members may also be an important precursor to the development of a sense of community among students. As community is fostered among staff members, appropriate behaviors and attitudes are modeled for students, helping them to mature in their own interpersonal relationships.

Similar observations have been made with respect to the development of a collaborative school climate. Stuart Smith and James Scott (1990) suggest, that "schools whose teachers cooperate with one another are characterized by cooperation among students."

How Does School Community Affect Students?

Sense of community in schools may promote a variety of positive outcomes for students. Bryk and Driscoll, for example, found that communally organized schools have fewer problems with student misbehavior (for example, class cutting, student absenteeism) than do other schools. Students in these schools also showed more interest in academics and greater achievement gains, and they dropped out at lower rates.

Our own findings (Royal and Rossi) similarly suggest that students' sense of community is related to their engagement in school activi-

*Mark Royal is an associate research scientist and Robert Rossi a principal research scientist at the American Institutes for Research in Palo Alto, California.

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ties, with students higher in sense of community being less likely to report class cutting behavior or thoughts of dropping out of school and more likely to report feeling bad when unprepared for classes. In addition, we have found that students reporting a high sense of community less often feel burned out at school.

Community may improve schooling for all students, enhancing academic and social develop- ment and providing them with experiences necessary to prepare them for full participation in a democratic society. But a sense of community may be a particularly important component of educational programs targeted at students at risk of academic failure.

In their study of exemplary dropout-prevention programs, Wehlage and colleagues (1989) observed that each devoted considerable attention to overcoming the many barriers that may prevent these students from connecting with the school and developing a sense of belonging, membership, and engagement. Indeed, they note, "the key finding from our research is that effective schools provide at-risk students with a community of support."

What Are Some Factors That Affect Community in Schools?

Bryk and Driscoll, along with Fred Newmann and his colleagues (1989), have identified a variety of structural and organizational factors that may affect the development of community in schools. Both studies suggest that smaller schools hold more promise for community development than large schools. Indeed, to create more personal and supportive environments, many reformers have advocated dividing large schools into smaller, semiautonomous subunits. Our own research suggests that this type of school organization may enhance sense of community for both staff and students (Royal and Rossi).

Newmann and colleagues also indicate that teachers' sense of community is greater in schools where student behavior is orderly, where administrators are responsive to teacher concerns and show support for innovation, where teachers are knowledgeable of their colleagues' courses and willing to help each other, and where inservice programs are tailored to staff needs.

Joel Westheimer and Joseph Kahne (1993) caution, however, that a favorable school structure should not be relied upon to produce a strong sense of community in schools by itself. Because individualism and autonomy are prominent features of the staff cultures in many schools, staff mem- bers may not be motivated to take advantage of the opportunities for community development such a structure provides.

Moreover, it should not be assumed that teachers and administrators currently possess the skills required to build and maintain a sense of community in their schools. Westheimer and Kahne argue that training programs should be provided to help staff members understand the benefits of community and to supply them with pedagogical tools and other capabilities needed to foster it.

How Does Community Relate to Other Improvement Activities?

Development of a healthy sense of community may be necessary for the long-term success of school-improvement activities. These activities can be quite disruptive in a school, often leading to changes in established roles and relationships and challenging fundamental assumptions about teaching and learning. Unless a sound fabric of interpersonal relationships can be woven as improvement activities are planned and launched, potential benefits of these activities may be lost to tension and dissension.

Our recent national evaluations of dropout-prevention programs and programs for students at risk (Rossi and Stringfield 1995), for instance, suggest that a strong sense of community is required to enable staff members to respond effectively to the challenges associated with implementing these reforms and maintaining them over time.

Similarly, Liana Graves (1992) argues that creation of a community context may be essential for the success of specific reforms such as cooperative-learning programs.

Research we have conducted in schools involved in whole-school restructuring also indicates that staff members who experience a strong sense of community at school tend to be more positive about the overall value of the restructuring activities and the progress of restructuring at their schools (Royal and Rossi).

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ERIC Clearinghouse on Adult, Career, and Vocational Education
EDO-CE-99-206

by Bettina Lankard Brown

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Sexual Harassment Interventions

Sexual harassment affects people of all ages and races and of both sexes. Although it has been outlawed under Title VII of the Civil Rights Act of 1964 and prohibited under Title IX of the Education Amendments of 1972, many companies and schools have yet to develop adequate policies and procedures for addressing sexual harassment. Evidence of this is apparent in the increased number of grievances filed with the U.S. Equal Employment Opportunity Commission (EEOC): from 10,532 filings in 1993 to 15,889 in 1997 (Ganzel 1998). The Supreme Court rulings in *Faragher v. City of Boca Raton* and *Burlington Industries v. Ellerth* are an attempt to halt these incidents by requiring harassed employees to work within their companies to resolve grievances before turning to the EEOC. They place responsibility on the employer to set guidelines for preventing sexual harassment and on the employee to follow them (Barrier 1998).

This Digest examines the implications of federal laws covering sexual harassment, the characteristics of company policies and grievance procedures to prevent and report sexual harassment, and program strategies for preventing sexual harassment in schools and workplaces.

What Institutions Can Do

The Supreme Court's recent rulings are motivating employers to take actions that reflect their compliance with federal laws as protection against sexual harassment litigation. Emerging from the literature on sexual harassment prevention are three key steps that employers can take to counter sexual harassment (Kimble-Ellis 1998; "Protecting Employees" 1998):

- Develop a strong company policy that specifies in writing outlawed behaviors and penalties for their demonstration
- Establish grievance procedures for reporting, processing, and resolving complaints
- Provide sexual harassment training for supervisors, managers, and workers that explains what sexual harassment means and how it can be recognized, confronted, and averted.

Strong Company Policy

Although a number of large companies have already established policies governing sexual harassment, effective compliance with the Supreme Court's rulings on sexual harassment requires that *all* companies, as well as schools that receive federal funds, establish sexual harassment policies that they put in writing, disseminate, and enforce (Barrier 1998). A company policy addressing sexual harassment must clearly specify (1) the behaviors that constitute harassment and the company's intolerance of such behaviors; (2) channels employees must follow to report sexual harassment complaints to their supervisors or designated company representative; (3) strategies the company will follow in investigating and resolving a complaint, including confidentiality practices; (4) warnings that violation of the policy will result in punishments that could include dismissal; and (5) assurance that retaliation will not be allowed (Ganzel 1998).

Good policy statements reflect collaboration among executives, supervisors, and employees and among administrators, teachers, and students. They respond to the organizational climate, which includes family and community as well as school influences. Because "sexual harassment is a manifestation of deeply held beliefs, attitudes, feelings, and cultural norms . . , it is predicated on sociocultural views and sex-role stereotypes" (Brandenburg 1997, p. 39). It reflects the abuse of power, a gender-power differential, and sometimes power-related retaliation. Some authors add sexual orientation power struggles to that list (ibid.).

In an address to educators at a conference organized by the Safe School Coalition, Marjorie Fink, a national sexual harassment prevention trainer, identified climate as a major component to guide prevention efforts ("Trainer: Stop Bullying" 1999). Every school, like every business, has its unique climate. In some organizations, verbal teasing, dirty jokes, and sexual pictures may be the dominant behavior that reflects sexual harassment; in others, improper touching, stalking, or shoving may be the misbehavior (ibid.). When all members of a work organization or school become involved in establishing policy, these contextual issues can be more effectively addressed and behaviors targeted.

Grievance Procedures

Although companies are required by law to handle grievances internally before seeking outside litigation, schools are also finding internal grievances procedures to be more effective in handling sexual harassment complaints. "Internal grievance procedures may save time, minimize emotional and financial expense, and be more sensitive to all persons" (Brandenburg 1997, p. 53).

Effective grievance procedures should clearly define the steps for submitting complaints, both informally and formally. Procedures for informal complaints should detail how the harassed person should go about seeking advice or counsel about a proper response to the offending behavior and describe the process of mediation, negotiation, and problem solving that may be used to resolve the issue. Procedures for formal complaints should require that the grievance be submitted in writing and present all facts related to the incident—who, what, where, when, the scope of the incident, and names of individuals involved. Typically, these reports must be submitted immediately after the incident, not weeks later. However, it is the responsibility of each company and school to specify the procedures it wants its employees or students to follow.

Grievance procedures should also identify the person or persons to whom grievances must be submitted. In the grievance officer model, all complaints are processed through a designated supervisor or officer; in the grievance board or committee model, grievances are submitted to a group (Brandenburg 1997). Although the grievance officer model offers the advantage of one entry point for complaint submission, it has the disadvantage of possibly requiring the harassed employee to deal with someone with whom he or she may be uncomfortable. The committee model, which places the problem in the hands of many, has the disadvantage of requiring greater communication and coordination between committee members and the harassed employee, making it more difficult to ensure confidentiality (ibid.).

Whatever process is adopted, the procedures the grievance officer/committee will follow must also be identified, e.g., receive the written complaint, identify the specific harassment, interview complain-

ants, interview the accused, interview witnesses, determine if sexual harassment has occurred, present the findings to both parties along with the consequences of the action, and require employees to accept mandatory arbitration ("Protecting Employees" 1998).

Sexual Harassment Prevention Training

No policy or set of grievance procedures will be effective unless all employees, from supervisors to line workers, administrators to custodial staff, are knowledgeable about the company's policy and grievance procedures. To prevent vulnerability to sexual harassment allegations, an organization must provide access to training for all employees and document their participation in and completion of the training program. Employees need to be aware that, although the recent Supreme Court's rulings held companies liable for harassment by supervisors even when management was unaware of the incidents, they made it clear that companies cannot be held liable for incidents in which an harassed employee did not follow the company's reporting procedures or did not participate in company-sponsored sexual harassment prevention training ("Protecting Employees" 1998).

Sexual harassment training should explain the law that prohibits sexual harassment, identify the actions that may be categorized as sexual harassment, describe the company's policy and its grievance procedures. However, the training should also heighten awareness of sexual harassment and present strategies for intervention.

Effective programs define sexual harassment and provide information on its incidence. Sexual harassment should be defined as "unwanted sexual attention that would be offensive to a reasonable person and that negatively affects the work or school environment" (Brandenburg 1997, p. 1). The key word in the definition is "unwanted." Two categories of sexual harassment may be given to guide thinking during the training program: quid pro quo harassment and hostile environment harassment.

Quid pro quo harassment occurs "when submission to or rejection of such (unwelcome sexual) conduct by an individual is used as the basis for employment decisions affecting such individual" (ibid., p. 2). Hostile environment harassment, on the other hand, occurs "when unwelcome sexual conduct causes the environment to become hostile, intimidating, or offensive, and unreasonably interferes with an employee's or student's work" (ibid., p. 3). Training programs should ensure that participants understand these definitions so that they can construct their own meanings of sexual harassment as they discuss the experiences of others.

Effective programs reflect good teaching and learning practices. They are descriptive, intensive, relevant, and positive (Berkowitz 1998):

- They require the involvement of all members of a company or school and include family and community members who have an influence on the employees' or students' life.
- They offer participatory, problem-based learning experiences that are interactive and actively engage the student in learning.
- They are tailored to the "age, community culture, and socioeconomic status of the trainee and are contextualized to the individual's peer group experiences" (ibid., p. 3).
- They present information from a positive viewpoint, encouraging healthy behavior rather than forbidding poor behavior.

Effective programs teach intervention skills. Berkowitz (1998) identifies the following steps for converting bystander behavior to intervention (pp. 3-4):

- Help learners to recognize sexual harassment incidents by providing them with appropriate and relevant definitions and examples of sexual harassment.
- Help learners to interpret which behaviors signify harassment. Encourage participants to share their experiences and their intolerance for certain behaviors as a means of illustrating their common ground.
- Encourage participants to feel responsible for dealing with the problem.
- Teach intervention skills and provide opportunities to practice them. Use role play scenarios to help participants find comfortable and appropriate ways to express their discomfort with another's behavior.
- Help participants be free of retaliation. Explore participants' fears about retaliation and provide examples of how interventions will be supported.

Conclusion

Sexual harassment training programs for a business or school organization's supervisors and employees can be internally or externally provided. Some companies are making training available online. Corpedia Training Technologies in Phoenix, or example, has an Internet-linked CD-ROM-based sexual harassment program to help employees and their supervisors recognize and take steps to prevent sexual harassment ("Sexual Harassment Training Online" 1999).

Although the sources of training may vary across organizations, each program should result in the achievement of designated learning outcomes. Case studies, scenarios, and ill-structured problems offer ways to connect knowledge about sexual harassment to its prevention in the workplace. The ultimate success of a company's or school's sexual harassment prevention training program will be reflected in the organization's ability to eliminate the behavior and avoid sexual harassment lawsuits.

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THE OHIO STATE UNIVERSITY
1900 Kenny Road · Columbus, Ohio 43210-1090

ERIC DIGEST

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Student Dress Policies

By Lynne Isaacson

In recent years, schools across the country have experienced violence, gang activity, and thefts of clothing and accessories. Many school boards, mindful of their responsibility to provide safe school environments for students, have implemented policies specifying dress codes or the wearing of uniforms.

As many as 25 percent of the nation's public elementary, middle, and junior high schools were expected to implement dress-related policies during the 1997-98 school year, according to the *California School News* (March 31, 1997). Ten states allow school districts to mandate school uniforms.

Educators and the public are divided over the value of implementing school-uniform policies in the public schools. This Digest examines arguments for and against school-uniform policies, identifies legal considerations, and offers guidelines for implementing policies on student dress.

What Are the Arguments in Favor of School Uniforms?

One of the chief benefits of school uniforms, say proponents, is that they make schools safer. Uniforms are said to reduce gang influence, minimize violence by reducing some sources of conflict, and help to identify trespassers. Parents benefit because they are no longer pressured to buy the latest fashions, and they spend less on their children's clothing.

Uniforms are also claimed to help erase cultural and economic differences among students, set a tone for serious study, facilitate school pride, and improve attendance (Cohn 1996, Loesch 1995, Paliokos and others 1996).

Proponents also say uniforms enhance students' self-concepts, classroom behavior, and academic performance (Caruso 1996).

What Are the Arguments in Opposition?

Opponents contend that school-uniform policies infringe upon students' First Amendment rights to freedom of expression; interfere with students' natural tendency to experiment with their identities; are tools of administrative power and social control; offer a piecemeal approach to issues of racial and economic injustice; and may discriminate against students from minority backgrounds (Caruso 1996, Cohn and Siegal 1996).

Some believe uniforms will not erase social class lines, because policies do not apply to other items that can be used to convey status, such as jewelry, backpacks, and bikes. Uniforms may not be feasible in high schools, because older students are more independent. Others argue that it is wrong to make children's right to a public-school education contingent upon compliance with a uniform policy (Caruso, Cohn and Siegal).

What Are the Outcomes to Date?

Most preliminary findings come from the Long Beach (California) Unified School District, the first U.S. public school system to require uniforms for elementary and middle school students. Before implementing its policy in September 1994, the school district required approval from two-thirds of the parents (Caruso 1996).

Long Beach Superintendent Carl A. Cohn reported that during the first year suspensions decreased by 32 percent, school crime by 36 percent, fighting by 51 percent, and vandalism by 18 percent (Cohn). At Whittier Elementary, attendance rates have risen each year since the policy went into effect, reaching a high of 96 percent (Caruso).

Schools in Chicago, Florida, Georgia, Louisiana, Maryland, New York, and Virginia have made similar claims (Caruso).

Parents have responded favorably to uniform policies. In Long Beach, only 500 parents petitioned to opt their children out of the mandate. In a national marketing survey conducted by Lands End, a Wisconsin-based clothing catalog company, respondents agreed that a uniform policy "could help reduce problems associated with dress," and most felt the price was "about the same or less than the cost of a regular school wardrobe" (*California School News*). California requires school districts to subsidize the cost of uniforms for low-income students.

A 1996 survey of 306 middle school students in the Charleston, South Carolina, County School District found that school uniforms affected student preceptions of school climate. Students in a middle school with a uniform policy had a significantly higher perception of their school's climate than did students in a school without a uniform policy (Murray 1997).

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Student reactions range from delight at not having to decide what to wear to displeasure at looking like a "nerd." It is important, therefore, to include students as well as parents in the uniform-selection process.

What Legal Issues Are Involved?

To date, most legal challenges to dress-code policies have been based on either (1) claims that the school has infringed on the student's First Amendment right to free expression or (2) claims under the Fourteenth Amendment that the school has violated the student's liberty to control his or her personal appearance (Paliokos and others 1996).

First Amendment Claims. The clash between students' rights of free expression and the responsibility of public-school authorities to provide a safe learning environment is the central issue in the debate over dress-code policy.

In developing a ban on gang-like attire, whether through implementing a dress-code or a school-uniform policy, administrators should ask: (1) Is there a direct link between the targeted attire and disruption of the school environment? and (2) Is the prohibition specific enough to target the threatening attire without infringing on students' rights? (Lane and others 1994).

"Any dress restriction that infringes on a student's First Amendment rights must be justified by a showing that the student's attire materially disrupts school operations, infringes on the rights of others at the school, or otherwise interferes with any basic educational mission of the school" (Grantham 1994).

To defend its action if challenged in court, a state must carefully define its interest when authorizing school districts to implement mandatory uniform policies. Policy-makers must be able to document that a problem exists (Paliokos and others).

Liberty Claims. Most challenges claiming a violation of the liberty interest have dealt with restrictions on hair length. Courts have been evenly split on whether a liberty interest exists. "Most courts that uphold the restrictions give the policy a presumption of constitutionality and place the burden on the defendant to show it is not rationally related to a legitimate school interest.... Those courts that strike down such regulations have found that schools impose unnecessary norms on students" (Paliokos and others).

What Are Some Guidelines for Implementing Policies?

Lane and others offer the following advice to policy-makers: Before implementing a dress-code or school-uniform policy, be able to justify the action by demonstrating the link between a kind of dress and disruptive behavior; consult with a school attorney; and make sure the policy is enforceable and does not discriminate against racial/ethnic minorities.

In regard to uniforms, Paliokos and others recommend that policy-makers address three key questions: Are the requirements legally defensible? Do they actually restore order? Are less restrictive dress codes a better alternative? For example, policy-makers can consider five alternatives ranging from least to most restrictive:

1. Do not institute a dress code.
2. Institute a dress code that outlines general goals, and let principals and local school officials formulate and implement policy at the grass-roots level.
3. Institute an itemized dress code that will be applied throughout the district.
4. Authorize a voluntary uniform policy.
5. Authorize a mandatory uniform policy with or without a clearly defined opt-out provision.

Then policy-makers should decide whether to let schools choose their own uniforms and whether to offer financial help to low-income families (Paliokos and others).

Whichever policy is chosen, successful implementation depends on developing positive perceptions among students and parents, making uniforms available and inexpensive, implementing dress-code/uniform policies in conjunction with other educational change strategies, allowing for some diversity in uniform components, involving parents and students in choice of uniforms and formulation of policy, recognizing cultural influences, and enforcing the rules evenly and fairly.

Superintendent Cohn credits his district's success to a stable school board, supportive parents and community, resources to defend the policy, capable site administrators, and community philanthropic resources.

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ERIC DIGEST

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Student Truancy

By Jay DeKalb

Truancy has been labeled one of the top ten major problems in this country's schools, negatively affecting the future of our youth. In fact, absentee rates have reached as high as 30 percent in some cities. The statistics speak for themselves.

- In New York City, about 150,000 out of 1,000,000 students are absent daily. School officials are unsure what portion of the absences are legitimately excusable.
- The Los Angeles Unified School District reports that 10 percent of its students are absent each day. A mere half of these students return with written excuses.
- Detroit's forty public school attendance officers investigated 66,440 truant complaints during the 1994-95 school year (Ingersoll and LeBoeuf 1997).

This Digest examines some of the ways truancy affects both individuals and society, and identifies factors that may place students at greater risk of becoming truant. Guidelines for creating effective attendance policies are considered, and various responses to the problem are described, with the goal of making it easier for districts to implement policies that work for them.

What Are Some Consequences of Nonattendance?

Student nonattendance is a problem that extends much further than the school. It affects the student, the family, and the community.

The Los Angeles County Office of Education identifies truancy as the most powerful predictor of delinquency. Police departments across the nation report that many students not in school during regular hours are committing crimes, including vandalism, shoplifting, and graffiti. When Van Nuys, California, officials conducted a three-week sweep for truants on the streets, shoplifting arrests dropped by 60 percent (Garry 1996).

Absenteeism is detrimental to students' achievement, promotion, graduation, self-esteem, and employment potential. Clearly, students who miss school fall behind their peers in the classroom. This, in turn, leads to low self-esteem and increases the likelihood that at-risk students will drop out of school.

In a longitudinal study of African-American males, Robins and Ratcliff (1978) found that of those students who were often truant in elementary school and truant in high school, 75 percent failed to graduate. Failure to graduate, in turn, is associated with diminished earning potential in adulthood and other poor outcomes.

What Are Some Causes of Truancy?

Before determining the most effective means of controlling unexcused absences, the causes of truant behavior must be understood. Not only may the cause vary from individual to individual, but school staff and students may disagree about the underlying causes. Although many teachers may be empathetic and willing to help students, this difference in opinion may create a barrier of understanding between teacher and student.

In one survey, students cited boredom and loss of interest in school, irrelevant courses, suspensions, and bad relationships with teachers as the major factors in their decision to skip school. On the other hand, most of the school staff believed truancy to be related primarily to student problems with family and peers (ERIC/CEM and Linn-Benton Education Service District 1992).

Are There Guidelines for Creating Effective Attendance Policies?

The National Association of Secondary School Principals makes several recommendations concerning attendance policies that work:

- The policies should be strong. Schools that invest thought and effort into solving the problem make the most headway.
- Participation in the formulation of the attendance policies should be broadly based.
- Attendance expectations, as well as consequences of good and poor attendance, should be specified in writing.
- Policies should be well publicized.
- Policies should be consistently enforced at every level—by teacher, counselor, and principal.
- Absences should be followed up by a telephone call or a letter (cited in Bartlett and others 1978).

Solutions can be divided into four categories: strict laws and regulations, in-school programs, computer technology, and community solutions (Gullatt and Lemoine 1997). Each solution addresses a different set of risk factors; therefore, specific categories or combinations of solutions should be considered when creating an attendance policy.

What Tough Approaches Can Be Taken To Address the Problem of Nonattendance?

Many school districts adopt a hardline approach to reducing unexcused absenteeism. This angle of attack is normally enacted as a means of breaking the truant-to-criminal evolution. It discourages kids from skipping school by imposing penalties on parents and on the students themselves.

In Tulsa County, Oklahoma, sixteen school districts are using a variety of methods to reduce truancy, but

none has been as successful as taking truants (and their parents) to court. "Family outreach" police officers are used to investigate unexcused absences. Three years after the policy was implemented, 600 cases had been prosecuted, resulting in 300 convictions in which a parent was fined and mandated to attend counseling. Hundreds of kids are back in school, and the county has seen a 45 percent reduction in the district's dropout rate. The districts were able to implement this policy at virtually no cost to the schools due to the districts' increase in funding that resulted from higher average daily attendance statistics (Wilson 1993).

Many states allow or require school systems to grade student achievement on factors other than quality and quantity of work. These schools may have the authority to refuse a student credit on homework assigned the day of absence, providing the absence is unexcused. Course credit may be denied if the student misses class a specified number of times, ranging from 5 to 20 times per term, depending on the school.

In the 1982-83 school year, the Austin (Texas) Independent School District adopted a policy that allowed only 10 absences (excused or unexcused) per semester before loss of course credit. That year attendance shot up to 93.5 percent (Gullatt and Lemoine).

Can Truancy Be Controlled from Within the School?

Yes, definitely. Peers have an undeniable influence on students' decision to become truant. One study reported that 84 percent of the interviewed truants said their friends skipped school. Antitruancy programs that expose truants to other peer groups and other methods of interaction may be effective in reducing truancy.

Afterschool sports or other programs at the school site give students a chance to make new friends, experience a positive atmosphere, and feel a sense of accomplishment, which, in turn, may reduce their likelihood of skipping school.

The learning environment is also important to student performance. Teachers must arrive on time, give students frequent praise, interact with the entire class (preferably asking open-ended questions), minimize verbal reprimands and other forms of punishment, and deemphasize competition in the classroom (Rohrman 1993).

A Kentucky high school "requires" that teachers compliment marginal students as well as offering them opportunities to succeed daily (Rohrman).

The Osiris School Administration Program, a software package that allows administrators to maintain accurate, up-to-date, detailed information on each student, is being adopted nationally. The program contacts parents of absent students on a daily basis. After the fifth and ninth absence, warning phone calls and computer-generated messages are sent, totaling thirteen contacts to the families. The number of contacts made by the program may be altered to adhere to state or local attendance policies (Gullatt and Lemoine).

How Can the Community Become Involved?

Extensive career exploration and related career education before and during high school are important for developing educational goals and setting timelines for achieving those goals. Creating an awareness of career possibilities and related interests eases the school-to-work transition.

The Peninsula Academies Program at Menlo-Atherton High School and Sequoia High School in California pairs students with volunteer mentors from companies that are aligned with students' career interests. The mentors acquaint students with the world of work and help parents formulate career plans with their children. Students begin the program in the tenth grade and receive three years of computer or electronics instruction. The curriculum is highly work-related and, as an incentive to graduate, students are guaranteed a job after they complete the program (Naylor 1987).

Another approach to community involvement is the At-School, On Time, Ready to Work program that has been implemented in Kansas. Students under sixteen years old who are not attending school are reported to the county attorney. He invites them to sign a ninety-day program contract that provides the following: a supervision worker to verify the student's school attendance and to meet with the student several times a week; a support group and therapy services that teach self-esteem and confidence-building skills; and support and education services for the student's parents, focusing on effective parenting techniques and the importance of their child's education (Garry).

The problem of student nonattendance will never disappear entirely. Some students willingly attend school, but others do not, often because of negative factors or influences in their lives. These students require intervention, for the benefits of regular attendance may be the difference between a lifetime of burdens and a lifetime of accomplishments. By addressing related risk factors with an attendance policy that works, teachers and administrators can give students a much better chance of succeeding.

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ERIC CLEARINGHOUSE ON URBAN EDUCATION

DIGEST

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URBAN SCHOOL-COMMUNITY PARENT PROGRAMS TO PREVENT DRUG USE

The role that youth drug use plays in school failure, violence, and anti-social and self-destructive behavior is well known. It is also known that parents strongly influence their children's decisions about drug use: parents model substance abstinence or abuse; express attitudes about drugs, alcohol, and tobacco; and control their children's exposure to drugs by monitoring their activities, behavior, and friendships (Cohen & Linton, 1995; Cohen & Rice, 1995).

Over the years, hundreds of school and community drug prevention programs for children and adolescents have been implemented, especially in areas where social or economic problems seem to stoke experimentation with drugs. An essential component of effective programs is parent participation (along with community and media support), and there are ways to usefully involve all types of parents. Programs involving families not only prevent children's drug use, but also provide parents with resources that enhance their own lives, and reinforce and increase the benefits of family life overall (Jones, 1997). Also, parents are increasingly acting with each other or independently to develop community drug prevention programs and to provide their children with positive alternatives to drug use.

This digest briefly discusses some ways to involve families in their children's drug prevention education.

Youth Drug Prevention Strategies

Because youth experiment with drugs for the same reasons that they engage in other negative behaviors, the most effective prevention programs concentrate on helping them develop constructive ways to manage stress in their lives. They present factual information about the consequences of drug, alcohol, and nicotine addiction; and demonstrate the fallacy of youth's belief that drugs can alleviate their pain. They offer skills building curricula which cover clear communication, anger management, conflict resolution, and self-esteem. Afternoon and weekend programs, considered essential by many experts, provide a safe place for youth to spend time when their families are not home; there, they can engage in sports and other group activities that allow them to feel good about themselves, and receive educational supports (Ertle, 1995).

School-Family Collaborations

Drug prevention education is a natural component of the family resource centers, common in urban schools, which provide and coordinate social services. Schools focus on *supporting*, not *fixing*, parents, and on promoting protective factors rather than reducing risks. The result is that parents are new and willing prevention partners (Cohen & Rice, 1995; Ertle, 1995). Schools are also encouraging students, staff, and parents to recognize the many positive experiences that families provide; and they are expanding the definition of family to include blended, single-parent, extended, and foster families. The goal is to encourage family closeness and support, satisfying the needs of youth that otherwise might drive them to gang membership (Domino & Carroll, 1994). In fact, the close-knit family systems characteristic of Latino groups have helped protect their youth from dysfunctional behavior, and they serve as a model for work with all families (Szapocznik, 1995).

Parent Recruitment

Many parents are reluctant to work with schools, or even to go into their children's school building, because of their own past negative experiences with education, feelings of intimidation, or differences in language and class that separate them from school personnel. Therefore, using an intermediary from the community (designated as an outreach coordinator), preferably a person respected as a local leader or an active member of the parents' church or ethnic group, often increases parent participation in drug prevention activities (Ertle, 1995). So does meeting in churches, community centers, or other non-school locations. It may even be necessary to use mobile outreach units to bring information and resources to families at home or at places where they gather (Bickel, 1995). The coordinator, using the parents' native language and conveying respect and support, can elicit their concerns about family and community problems and solicit suggestions for solving them. The coordinator can also help parents understand that they are being asked to help create and manage anti-drug interventions, not simply follow the orders of school personnel (Ertle, 1995).

Some parents do not participate in drug prevention activities because they do not realize that drug use is a local problem. They may simply lack information because they are new to the area or not informed, or they may refuse to acknowledge the demonstrated existence of drugs in the misguided hope that doing so will prevent them from reaching their own home. It is important, therefore, for trusted people, such as the outreach coordinator, to be sure that families are provided with the facts about the local drug situation (Bickel, 1995; Cohen & Linton, 1995).

Unfortunately, the families most at risk of having a child use drugs, possibly because adults in the home are users, are hardest to engage in prevention activities. Many, however, are willing to participate in other, more general, programs, such as those that consist of youth bonding activities; cultural, sports, and fun events; and forums on health and child rearing. These can include an anti-drug component (Gardner, Green, & Marcus, 1994).

Parent Support

To encourage parent involvement in school drug prevention programs, schools should make efforts to increase family trust (Bickel, 1995). To encourage parents' initiation of anti-drug interventions at home and, with other parents, in the community, schools need to equip parents with information and strategies to increase the effectiveness of their efforts. Outreach should be respectful of parents' innate abilities and ultimate responsibility for child rearing. Information can be provided directly in anti-drug forums, but experience has shown that parent participation is greater when drug prevention is included in a more comprehensive program. For example, a life skills program can also offer English language

instruction, job training, help with dealing with public agencies, and other services benefiting disadvantaged families. A family wellness program can also cover developing and maintaining good family relationships and solving family problems (Ertle, 1995).

One key topic for parents to explore is how to develop and maintain their natural leadership in the home. This involves good communication of values and appropriate expectations, active listening to their children's concerns, and good family problem solving. Parents may feel particularly vulnerable when their children approach adolescence and are faced with a myriad of new child rearing issues (Szapocznik, 1995).

Another important parent concern is how the ability to deliver an effective anti-drug message can be compromised by differences in acculturation and English language proficiency across generations. The greater the gaps, the more likely there will be conflicts within the family, and between generations and cultures, with the result that youth reject their family's values. In addition, when youth serve as translators for their elders, the natural balance of power can be reversed, with an ensuing devaluation of parental authority. In addition to preserving their authority, minority and immigrant parents need to foster a strong sense of family belonging in order to protect their children from feelings of societal isolation and marginalization that can lead to anti-social behavior (Szapocznik, 1995).

Parents who are themselves drug users, or who used substances in the past may need guidance in answering their children's questions. Past users may indicate that the harmful effects of using certain drugs were not known when they did so; that while they were not harmed, other people suffered severe consequences; and that they decided they felt better when clean. Current users need professional help in dealing with their own addiction and their children's concerns (National PTA, 1996).

Parent Activities

Parents can engage in a wide range of activities independently and with the local school and community groups. Organizations that initiate projects should encourage parents' feelings of ownership to maintain their involvement, support, and enthusiasm (Bickel, 1995). The following are some examples of parent activities with demonstrated effectiveness (Bickel, 1995; Cohen & Rice, 1995; Ertle, 1995; Szapocznik, 1995):

- Parent volunteers can improve school safety by monitoring the campus, halls, and bathrooms. They can also sit in with teachers who are experiencing disruption in class.
- Parent volunteers, identified by badges, can serve as "neighborhood watchers" to ensure students' safe travel to and from school, and to offer them protection from dealers and bullies.
- Parents can work with schools and community groups to organize after-school and weekend programs to engage students constructively. They can also organize or chaperon proms, parties, and games that might be sites for drug activity.
- Parents can initiate networks of parents to keep informed about local issues and to work together to keep their children safe. They can organize "hotlines" to keep others informed and to deal with crises. Parent mentors can provide parents new to the area with information about local drug prevention efforts and encourage their involvement.
- In groups, parents and children can share their thoughts and information about drug use so that local drug activity is revealed and parents' attitudes are clearly conveyed. Children can identify their friends so parents learn who might be influencing them.
- Parents can institute family meetings, common in Latino households, that provide all members with a sense of belonging and provide an opportunity to discuss important issues and share concerns.

Conclusion

Effective school-family collaborations to prevent youth drug use require mutual respect; an accurate understanding of the nature and concerns of community members and the local problems; and an ongoing commitment of time and resources by everyone involved. It is important that the responsibilities for both decision making and tasks be shared, and that assignments be clearly stated. Above all, families must feel confident that they can share problems with others, that confidentiality will be maintained, and that they will receive useful and sustained help and support.

—Wendy Schwartz,
ERIC Clearinghouse on Urban Education,
Teachers College

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ERIC Clearinghouse on Urban Education, Institute for Urban and Minority Education, Box 40, Teachers College, Columbia University, New York, NY 10027, (800) 601-4868. Erwin Flaxman, Director. Wendy Schwartz, Managing Editor.

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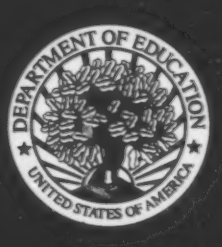

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